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**AIR CONDITIONING AND  
REFRIGERATION News**

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Vol. 47, No. 15, Serial No. 891  
Established 1926.**Inside Dope**

By George F. Taubeneck

**The Lad Had Integrity**  
 Benton & Bowles—Is the Moon Made of Green Cheese?  
 Too Big for Their Britches?  
 Why We're Skeptical  
 Excellent Publicity  
 How OPA Prevents Prosperity  
 Quoting Henry Ford II  
 The A-B-C's of Inflation

**The Lad Had Integrity**

As reported by "Tide," we bring you the story of the advertising copywriter who couldn't be found.

He had been working for a Manhattan agency; and he did a workmanlike job—day in and day out—until one day he didn't appear.

No one worried about his absence at first. Advertising men are prone to disappear. But after two weeks had elapsed without contact, his friends in the agency got downright scared. A squadron of his pals was assigned to go out looking for him around the Big City's bars.

One member of that "flying squadron" finally located the missing copywriter. The latter was stiff as a board, mumbling to himself in the darkest corner of a Seventh-avenue saloon.

The pal did his best. He begged and he pleaded. He talked about a big client meeting which was scheduled to come off the next day, and he swore up and down that his fellow-workers simply had to have him back on the job.

But he couldn't get a rise out of the drunken fellow. So he dropped the routine and asked simply what the trouble was. The copywriter sighed, looked dolefully at his pal through mournful eyes and said:

"I'm tired of it all. It's no use. I'm through. They've had me writing stuff about a blankety-blank tractor that you couldn't even say about Abraham Lincoln!"

**Benton & Bowles—Is the Moon Made of Green Cheese?**

It's about time that somebody put the finger on those two bright young refugees-from-business, Bill Benton and Chester Bowles.

The latter is being touted as a candidate for the Democratic presidential nomination in 1952. The former is said to be a "dark horse" for 1956.

What have they got to offer the American public? Well, let's see now. Some of us have known these two precocious men from 'way back. They were in the advertising business for a relatively short time before they became public figures.

Although they had no accounts in this field, any number of advertising and merchandising men we know had opportunity to appraise them at close range. The reports vary.

Some years ago the Benton & Bowles team attempted to hire the writer of "Inside Dope." Their offer was most attractive. And the picture they painted for our future held us spellbound. (At that time they were working partners in a mustered—but highly successful—New York advertising agency.)

So, we had a chance to look 'em over at close range, too. But, we didn't bite. Maybe we were wrong—maybe not.

Since that time, both have retired from the advertising-agency business with modest fortunes. And each is now a high-ranking politico in Washington. Apparently they are both pretty smart gees.

Let's see where they are, and what they are doing currently.

**Too Big for Their Britches?**

Bill Benton is a power-behind-the-scenes in America's State Department.  
(Concluded on Page 7, Column 1)

**Pearce of G-E Says '46 Refrigeration Output To Be Far Under Need**

CHICAGO—"Production of air conditioning and commercial refrigeration machinery during the rest of this year will be far below requirements," reported Robert S. Pearce, vice president of General Electric Co., in the course of his talk before members of the Edison Electric Institute during their twelfth annual sales conference at Chicago's Edgewater Beach hotel early this month.

"Government regulation held down the manufacture of this equipment during the war," he explained, "and there has been a substantial reversion job to be done."

"In the next 12 months we expect to channel into the market a volume that will exceed that of any prewar year," Mr. Pearce said of G-E's production, "but market requirements still are greater than the ability of the industry to produce, and it will be necessary to allocate equipment to distributors."

It would be difficult to say how many appliances were lost because of the strike, the speaker reported. Using the December rate as a basis, (Concluded on Back Page, Column 1)

**Fountain, Bottle Cooler, Ice Cream Freezer Price Controls Off**

WASHINGTON, D. C.—All price controls on soda fountains, ice cream freezers, and bottle coolers were removed by OPA in amendment 77 to MPR 188 made effective April 8.

Many other items were removed from price control at the same time, but the above named were the only ones of interest to the refrigeration field.

It is not yet known just how inclusive the term "bottle coolers" is meant to be under the order—whether or not it will include self-contained bottle coolers, etc.

**Davis and Oswald Head Norge-Heat**

DETROIT—C. S. Davis, Jr. has been named vice president and general manager of the Norge-Heat division of Borg-Warner Corp., and J. W. Oswald has been named sales manager of Norge-Heat.

In making the appointments, Norge President Howard E. Blood said that plans have been mapped for national distribution of the company's domestic heating line and other products through heating equipment dis-

(Concluded on Next Page, Col. 4)

**Servel Buys Plane Plant For Air Conditioners**

EVANSVILLE, Ind.—Servel, Inc. has purchased the government plant which it operated here during the war for the manufacture of airplane parts, the War Assets Administration has announced.

It is reported that Servel will manufacture air conditioning equipment for both home and commercial applications in this plant.

**G-E In Production On Studio Range**

BRIDGEPORT, Conn.—Designed for apartment house installation or other kitchens where space is acutely limited, General Electric's new studio range is already in production, announces J. F. McBride, sales manager for ranges. The range is 36 in. high by 19½ in. wide by 25 in. deep, has full-oven capacity, and three Calrod heating units, each with five heat modulations.

**Coal Strike Is New Threat to Appliance Field**

CHICAGO—The length of the soft coal strike will determine whether or not it will affect steel production, and hence production of refrigerators and other appliances.

That was the information gleaned from reports taken on steel mills throughout this area. Some of the mills have coal enough to keep them going for several weeks, others had scaled down their operations within a week.

If the strike should last a month or more, it might serve to cut the steel supply to practically nothing, and this in turn would mean a vastly reduced production of appliances.

Should this happen, some sources estimate that overall production of appliances for the year may fall 30 to 40% below first-of-the-year estimates.

**Westinghouse Drops Wringer Washer Plans**

MANSFIELD, Ohio—The Westinghouse Electric Appliance Division will permanently drop production of a proposed, fundamentally different wringer type washing machine because projected costs of manufacture show that it would be impossible to liquidate the investment and sell at a competitive price, it was reported last week by J. H. Ashbaugh, vice president in charge of the division.

In line with this company decision, I. Frank Brownson, manager of the laundry equipment department, said that Westinghouse will make a complete line of automatic washers under the name of Laundromat which line will eventually include lower price models. The OPA recently set a ceiling of \$208.95 on the current model of the machine. The complete Westinghouse laundry equipment line will include the Laundromat, an automatic clothes dryer, and a new ironer, now under development.

Mr. Brownson pointed out that new tooling costs for the proposed Wringer washing machine would amount to more than \$300,000, and that projected costs of manufacture show that it would be impossible to sell at competitive prices, even without adding a profit.

**Donald French Heads Carrier Engineering**

SYRACUSE, N. Y.—Donald French, vice president, has again been placed in charge of the engineering division of Carrier Corp., replacing Herbert L. Laube, who resigned recently.

Mr. French joined Carrier in 1930. He directed research and development, which are the principal activities of the engineering division, from 1931 to 1941. He was elected vice president of the corporation in 1934.

Since 1941 he has been head of the staff division and will continue in that position in addition to directing the work of the engineering division.

**Quonset Huts To Store Wholesaler's Goods**

BUFFALO—Everett Foster, president of the Foster Supply Co. here announced he is planning to erect an undetermined number of war-surplus Quonset huts for electrical appliance warehousing facilities.

The proposed Quonset huts will be erected on Sheridan Drive where Mr. Foster recently acquired 11 lots. Each hut would be 40 ft. wide and 150 ft. long.

**CPA Sees Copper, Brass Shortages Continuing**

WASHINGTON, D. C.—A warning that the unprecedented peacetime demand for copper wire and brass during 1946 may lead to a breakdown of all production schedules unless controlling steps are taken was issued by the Civilian Production Administration late last week.

Major factor contributing to the current upswing in demand for copper and brass products is the Veteran's Emergency Housing Program, the CPA declared. This program will require large quantities of copper and copper base alloy products such as copper water tubing, wire for electrical installations, sheet copper in rolls for roof flashings, brass tubing for the manufacture of sanitary plumbing goods, and hardware.

Requirements for the Housing program, it was indicated, are over and above normal industrial and civilian demand, which CPA estimated would be slightly more than 150 million pounds per month during the coming year. Brass mills already are offering extended deliveries of from four to eight months on present orders. With copper tubing the situation is even worse, for some mills have accepted orders that will take up their entire production facilities for the balance of the year.

To offset this overburdened production schedule priorities may have to be granted on complementary materials such as rubber compound, cotton, lead, and tin.

The pig tin quota for the second quarter will be the same as the first, CPA announced. Because of the large carry-over of tin from unused first quarter supplies, however, increased availability of the metal during the second quarter was forecast. Management-labor difficulties and other work interruptions were said to have prevented the full use of first quarter quotas.

Despite these potentialities, no sharp increase in tin production is yet in sight, CPA officials said.

**Utility Appliance To Finance Expansion**

LOS ANGELES—A proposed offering of 80,000 shares of \$15 par cumulative preferred stock at \$16.625 a share and 80,000 shares of \$1 par common at \$5.25 a share was filed recently with the Securities & Exchange Commission by the Utility Appliance Corp. here.

Approximately \$1,100,000 of the proceeds from sale of the issue will be used to purchase assets of Gaffers & Sattler (at one time manufacturer of refrigerators and other appliances), and Occidental Stove Co., it was said. Another \$200,000 will go for plant additions, and the remainder for working capital.

Bateman, Eichler & Co. have been named as underwriters.

**Rohr Defers Plans To Make Appliances**

DETROIT—Continuing orders for aircraft power plants and sub-assemblies have been so large that Rohr Aircraft Division of International Detrola Corp. has had to defer "Indefinitely" its plans to enter into production of electric refrigerators and washers.

This situation was brought to light in the annual report of International Detrola Corp. just made public. The Rohr plant at Chula Vista, it was explained, has a substantial backlog of orders for plane parts.

Last fall the Rohr Division bought an assembly plant at Los Angeles from Ford Motor Co. for "west coast manufacturing operations," but the report indicated that no decision had been made regarding the products to be made at this plant.

**Amendment to OPA Bill Would Retain Margins****Refrigerator Dealers Will Be Protected If Amendment Sticks**

WASHINGTON, D. C.—An amendment that would prohibit OPA from requiring dealers in automobiles, refrigerators, and radios from absorbing any further increases in manufacturing costs was added to the bill extending the life of the OPA and given approval by the House Banking and Currency Committee last week.

The amendment faces a fight by Administration backers of the OPA measure when the bill comes up for hearing before the House this week.

The amendment, sponsored by Rep. Crawford of Michigan, would prohibit the OPA from reducing "established" retail trade discounts or dealer handling charges until prewar production levels were attained and maintained for six months. It would apply to all commodities, production or distribution of which was curtailed by as much as 75% during the war. (This would certainly include refrigerators.)

Text of the amendment is as follows:

"In the case of any retail industry, the principal sales of which consisted during the calendar years 1939 to 1941, inclusive, of sales of a commodity or commodities the production or retail distribution of which has been reduced, for a period of three years beginning on or after March 2, 1942, by 75% or more below such production or retail distribution for the calendar years 1939 to 1941, inclusive, as a result of the operation of any government regulation or restriction, the administrator shall not, in establishing maximum prices under this section, reduce established retail trade discounts or dealer handling charges for any such commodity before the retail unit sales of such commodity for a period of six months shall have reached the average annual retail unit sales thereof for the calendar years 1939 to 1941, inclusive."

Some confusion hinged on the interpretation of the word "established." If it were to be interpreted to mean historical profit margins in effect before the war, the cut in dealer margins made thus far would be destroyed. However, if "established" were to mean present margins, it would merely prohibit further absorption by retailers of increased production costs.

**Coatsworth To Direct Activities of E.E.I.**

CHICAGO—Nearly 1,000 utility men and others interested in the electrical industry's major markets attended the Edison Electric Institute's twelfth annual sales conference, held April 2-4 at Chicago's Edgewater Beach hotel.

This conference also represented the last official appearance of two of the Institute's chief officers: C. W. Kellogg, president, and C. E. Greenwood, commercial director, both of whom have reached the retirement age of 65.

Mr. Kellogg will retire from office June 1; his successor has not yet been named. Mr. Greenwood's retirement became effective April 1, and he presented his successor to the Institute during the conference: James T. Coatsworth, formerly sales promotion manager of Public Service Co. of Colorado and more recently Colonel in the U. S. Army.

## Mitchell Named to New Frigidaire Sales Post

DAYTON, Ohio—F. M. Mitchell has been named manager of Frigidaire laundry equipment sales, H. M. Kelley, appliance sales manager, has announced. Mr. Mitchell was formerly Director, Consumers Durable Goods Division, War Production Board.

Immediately following the creation of the new laundry equipment sales division, Mr. Mitchell announced the appointment of H. C. Morgan, a veteran of 13 years in washer production and sales, as laundry equipment specialist and assistant to Mr. Mitchell.

Recently discharged from the Armed Forces, Mr. Morgan has been associated with the Automatic Washer Co. in the production control and planning department and with the Maytag Co. as special assistant to the eastern branch manager and as regional manager for the states of Maryland and Pennsylvania. In 1942 he resigned his position as regional manager to join the WPB in Washington.

## Anchor Appoints Plack To Appliance Div. Position

PITTSBURGH—Milton Plack has recently been appointed eastern district manager of the appliance division of Anchor Distributing Co. Mr. Plack, who before the war was a salesman for Anchor, will have complete supervision over appliance sales in Westmoreland, Cambria, and Blair counties.

## Poll Shows Vets Favor Radio, Appliance Shops

WASHINGTON, D. C.—Household appliance and radio shops were found to be the most popular choices of veterans who plan to go into the retailing business for themselves, according to a survey conducted by the Department of Commerce among 6,450 veterans from Jan. 1, 1945 to Feb. 28, 1946.

Vets who indicated that retailing was their choice comprised 46.8% of those surveyed, it was reported. Service establishments attracted 13.6%; manufacturing, 4.7%; wholesaling, 3.9%; construction and contracting, 2.8%; and transportation, communications, and utilities, 0.8%.

Although household appliance and radio shops pooled the most votes in the retailing category, other popular ventures include apparel stores, filling stations, grocery stores, and restaurants, the survey showed.

In general, the Department of Commerce decided, veterans are interested in businesses requiring small investments and relatively little special skill.

## OPA Assigns Ceiling Price On Palm Bros. Home Freezer

MINNEAPOLIS—The 13 cu. ft. home freezer powered by a  $\frac{1}{3}$  hp. condensing unit manufactured by Palm Bros., Inc., here was retail-priced at \$464 by OPA in Order 373, MPR 591.

On sales to distributors, a maximum price of \$232 is permitted; and on sales to dealers, \$278.

## Materials Shortages Hit By N.Y. Contractors Group

BUFFALO—Officials of the New York State Sheet Metal, Roofing & Air Conditioning Contractors, Inc., took a dark view of the materials shortage picture at their annual meeting here, predicting no immediate relief.

"We are in a sort of a vicious circle, at least for the time being," commented Charles R. Joyce, of Rochester, who was reelected president. "We cannot get materials and without them we cannot employ the returning G.I.'s who need to earn the money to pay for the housing that everyone knows must be had."

"Our industry is operating now on accumulated stocks. The outlook is not bright."

Clarence J. Meyer, of Buffalo, secretary of the state and national organizations, took a similar view.

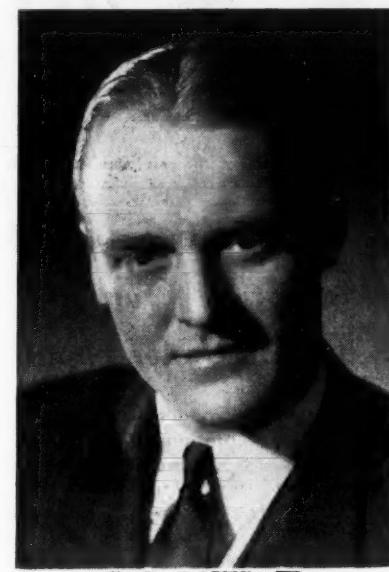
"We have plenty of work but we have to have something to work with," he said. "We cannot get copper or steel or other materials. I think the condition is likely to get worse before it gets better."

Other officers of the group are Clarence Williams, vice president, and William C. Kirkpatrick, treasurer.

## Brooklyn Appliance Co.

LOS ANGELES—Brooklyn Electrical Appliance Co. is the firm name under which Jess Miramontes and Augie P. Oliveras have published a certificate that they are conducting business at 2721 Brooklyn Ave., Los Angeles.

## Two Norge-Heat Appointments



C. S. DAVIS, JR.



J. W. OSWALD

## Davis and Oswald--

(Concluded from Page 1, Column 2)

tributors, jobbers, and contractors.

Mr. Davis joined Borg-Warner's Norge division in 1937 as a refrigeration cost engineer, and until 1939 did specialized work principally in the manufacturing and cost departments. In that year he transferred to the Norge heating and conditioning division, predecessor unit to Norge-Heat, as assistant to the manager. He became manager in 1940.

During the war, Mr. Davis devoted his time to research and development work on aircraft heating equipment for the Air Forces and in 1945 was made manager of the highly secret automatic gun director project which Norge undertook for the Navy.

Mr. Oswald has been associated with distribution of home heating and plumbing equipment and household appliances since 1930. He joined the Norge division in 1934 as field representative and in 1939 was appointed western sales promotion manager.

From 1941 until 1944 he was director of priorities for all divisions of Norge and Detroit Gear. In 1944 he was assistant sales manager of Detroit Gear and later became sales manager. In 1945, Mr. Oswald was appointed sales engineer in the automatic transmission division.

## H.B. Tompkins to Head Wesco's New Central District in New York

ROCHESTER, N. Y.—Formation of a new Westinghouse Electric Supply Co. district in the central part of New York state with H. B. Tompkins as manager has been announced by David M. Salsbury, vice president and general manager.

The new territory, organized from the northern part of what formerly was known as the eastern district, was made because the high potential of business in both the metropolitan and upstate regions warrant individual attention.

With headquarters in Rochester, the new district will embrace Albany, Binghamton, Syracuse, Utica, and Watertown. Mr. Tompkins announced that D. J. Byrne, formerly branch manager of the Rochester office, has been appointed apparatus and supply manager of the new district and E. B. Stearns, formerly branch appliance manager at Newark, N. J., has been named appliance manager.

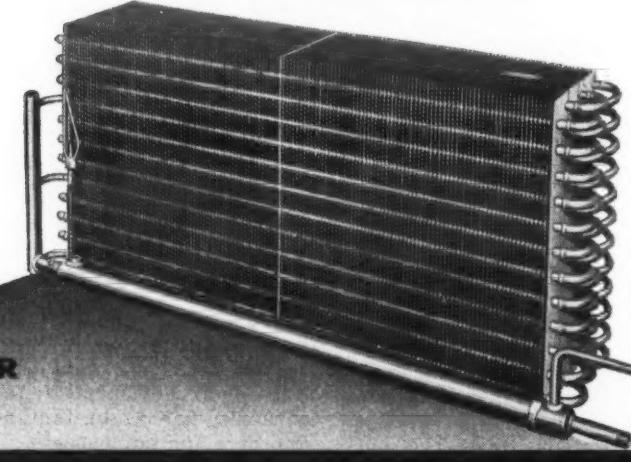
Other appointments included: Robert H. Douglas, service manager; B. T. Tremaine, promotion manager; H. K. Glechauf, stores manager; and F. S. Jones, credit manager.



**E**very summer he steals countless hours from every type of business—productive time lost by heat-fatigued workers... Air conditioning—made more efficient by Marlo "BALL-BONDED" Coils—will promote year-round peak production. Our engineers will gladly help select proper equipment.

### MARLO HEAT TRANSFER SURFACE

Ball-Bonded Blast Coils—Cooling and Heating • Air Conditioning and Refrigeration Apparatus • Industrial Blower Units • Unit Coolers • Evaporative Condensers and Coolers  
Low Temperature Apparatus



MARLO-HEAT TRANSFER

**MARLO COIL COMPANY**

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## GUARDIAN

... of Your Reputation!

An ordinary water valve very often imperils the operation of a refrigeration or air conditioning system. Such faulty operation can reflect on the reputation of the service man. Yet it's all so unnecessary because a water valve is now available that can give you dependable, long-life performance.

And that water valve is... a PENN! In this new-type water regulator, range springs and sliding parts are never submerged in water. Rust, corrosion and sedimentation are never allowed to begin their destructive work. With PENN Valves, seats don't

stick nor do range springs grow rusty. Water hammer, too, is eliminated—yet the valves are extremely sensitive to changes in refrigerant head pressure.

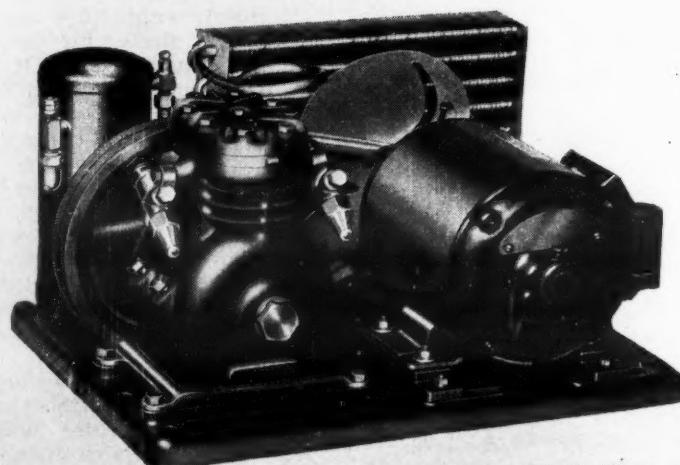
Guard your reputation with PENN 246 Water Valves. They're built in two styles—flanged and threaded—in a wide variety of sizes. Send for the descriptive bulletin on this new-type water regulator today. Write Penn Electric Switch Co., Gosben, Ind. Export Division: 13 E. 40th Street, New York 16, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ont.

**PENN**

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSOR

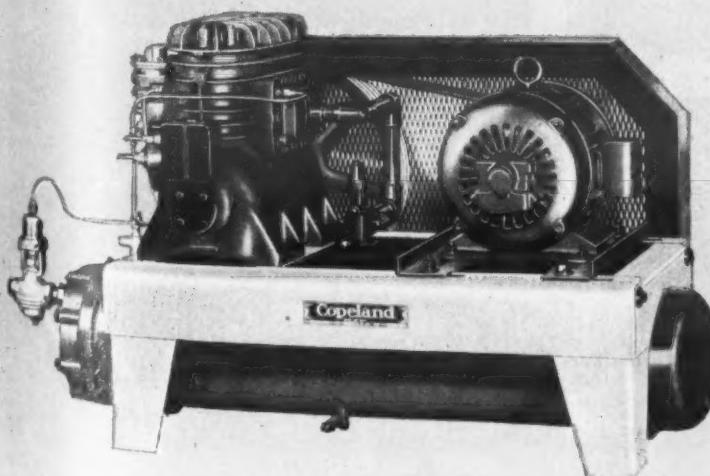
# When the Pendulum Swings Back



Compact, belt-driven units for self-contained installation. Sizes from 1/6 H.P. to 1/2 H.P. A model for every range of refrigeration temperature.



**COPELAMETIC**, the ACCESSIBLE hermetic Combines all the advantages of open-type units and welded-in hermetics. Eliminates belts, seals, manual oiling. Models from 1/20 H.P. to full 1/4 H.P.



Copeland remote units are sturdy, compact. Air-cooled models from 1/3 H.P. to 2 H.P. inclusive. Water-cooled models from 1/2 H.P. to 7 1/2 H.P.

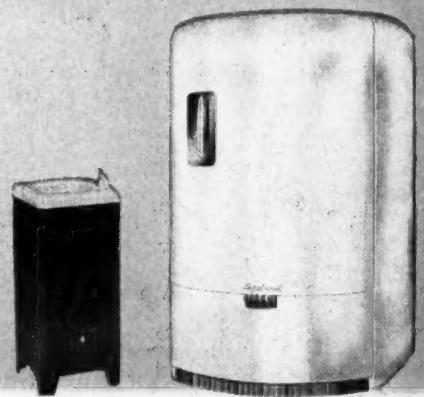
Count on time to bring a turn-about in the not-too-distant future. And that's okay with Copeland. We'll consider it a great day indeed when our customers once more are in the driver's seat. When you can choose . . . and your choice is Copeland . . . then we'll really get a thrill out of having you tell us: "You're it!" Yes, we'll take our orders from YOU . . . and gladly.

*In the meantime . . . we're doing these two things to help the good cause along:*

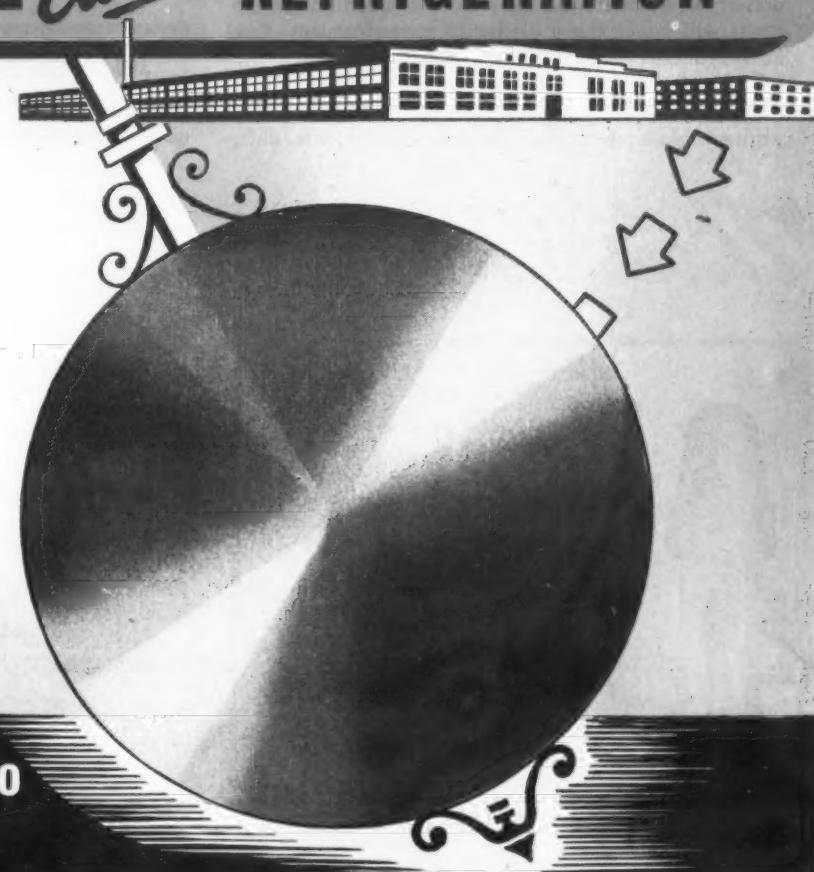
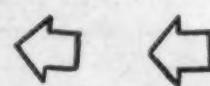
1. We're keeping our laboratory and engineering staffs busy on new refinements to give Copeland electric refrigeration more plus-values in dependability.
2. We're guarding our friendships and good-will by distributing as fairly as possible the production achieved under current conditions.

**WHICHEVER WAY THE PENDULUM SWINGS,  
COUNT ON COPELAND!**

Copeland electric water coolers and household refrigerators are smart-looking, low-cost in operation, thoroughly dependable.



## Copeland DEPENDABLE *Electric* REFRIGERATION



**Copeland Refrigeration Corporation, Sidney, Ohio**

New York Office, 71 West 23rd Street

Export Department, 60 Wall Tower, New York

## Refrigeration Service Men:

# If You Want to Go In Business for Yourself, Prepare to Face These Facts and Figures

By C. Dale Mericle

TORONTO, Ontario—The refrigeration repairman who eyes the greener pastures of operating his own business must remember that he will have to work much harder in addition to worrying about business problems, warned Paul B. Reed of Perfex Corp., who addressed the recent annual conference of the Interprovincial Refrigeration Service Engineers Society here.

There are advantages to running your own business, however, he emphasized, such as being independent, less subject to layoff, plus having the opportunities to build up clientele, expand the organization, and to go into the sales end of the business.

"Before the service man decides to go into business for himself, he ought to consider what his present employer does for him," said Mr. Reed. "The employer provides steady employment, equipment, a car or car allowance, clerical help, and advertising, in addition to standing the losses for non-profitable jobs, getting the business, and contributing his own time."

The repairman first should familiarize himself with the numerous costs involved in a business, costs that bring a good gross profit down to a small actual net profit, he pointed out.

There are direct labor and direct material costs, both of which will vary from job to job. And then there is overhead, fixed and variable. Fixed overhead includes rent, telephone, heat, interest, salaries, and amortization of equipment. These costs will remain more or less constant.

Variable overhead, however, varies with the amount of work being done. Under this heading come freight charges, other transportation, bad debts, some taxes, and lost time (call-backs, trips to parts wholesalers, etc.) said Mr. Reed.

"The difference between the total income and the total outgo is, of course, the net profit, and a business man who makes as much as 10% net profit is doing well," he declared. "In fact, of big factories, almost none are making 10%."

"The large employer may have a small overhead, percentagewise, for he may be able to operate more efficiently. The telephone girl, for example, can handle calls for three service men or 10. The same billing clerk could likewise handle more billing.

"This doesn't mean that the small operator cannot compete with the large business, but it does mean that he can't throw a big front. He also

must not try to undersell the big operator. If he does, he's just kidding himself," cautioned Mr. Reed.

It would be a good thing for the service man operating his own business to engage an accountant to check his operations in his spare time, for an accountant could show the repairman just how much he is spending, Mr. Reed advised.

Citing facts and figures, Mr. Reed analyzed the costs of a repairman who had been working for an employer at \$1.25 an hour, drawing \$50 for a 40-hour week.

"If this man goes into business for himself, he'll have to take in much more than \$50 to make a salary of \$50," he continued, giving the following breakdown of weekly costs:

Mileage .....	\$12.50
Telephone .....	1.00
Bad debts .....	.50
Depreciation .....	5.00
Insurance .....	1.00
Postage, Advertising, etc. ....	2.00
Freight .....	2.00
Miscellaneous .....	1.00
Total .....	\$25.00
Salary .....	50.00
Gross Income .....	\$75.00

To take in a gross income of \$75 weekly, the repairman, who would

## Service Men Urged to Explain Today's Shortages



Asking service men to take the lead in telling customers just why appliances are still scarce, C. E. Graff of Ranco, Inc., discussed present-day problems at a luncheon session of the recent conference of the Interprovincial Refrigeration Service Engineers Society in Toronto. At the speakers' table were (left to right) Harold Donnell, president of the Ontario Maple Leaf chapter; Gordon Roe, new president of the Interprovincial R.S.E.S.; W. H. Sneath, retiring president; Mr. Graff; and E. G. McCracken, secretary.

perhaps average \$2 an hour on service calls, would have to work 37½ hours a week on service calls alone. This would leave only 2½ hours a week for sending out bills, time lost in call-backs, drumming up business, and the numerous other things he would have to do.

The repairman would obviously have to work about 50 hours a week, which would bring his wage rate down to \$1 an hour, less than he had been making while working for his employer, pointed out Mr. Reed, adding that the costs listed above do not include rent, nor do they allow for a vacation, which his employer provided, nor do they take into consideration the time spent by the repairman's wife in helping him on phone calls, billing, etc.

"But how much should one pay for a service business? It's probably unsafe to pay more than could be amortized within five years," declared Mr. Reed. "If the firm has a lot of tangible assets, it might be safe to allow more than five years for amortization."

Another problem to be decided is whether to confine the business operation to service only or to go into the sales end in addition.

"There is no reason why a service man can't sell, if he knows something about selling," said Mr. Reed. "Many think that selling involves no trouble. That is true now, but it will pass."

"The repairman who wants to sell must learn some methods of selling. In general, the selling business is a feast or famine proposition. One has to bank against the lean years."

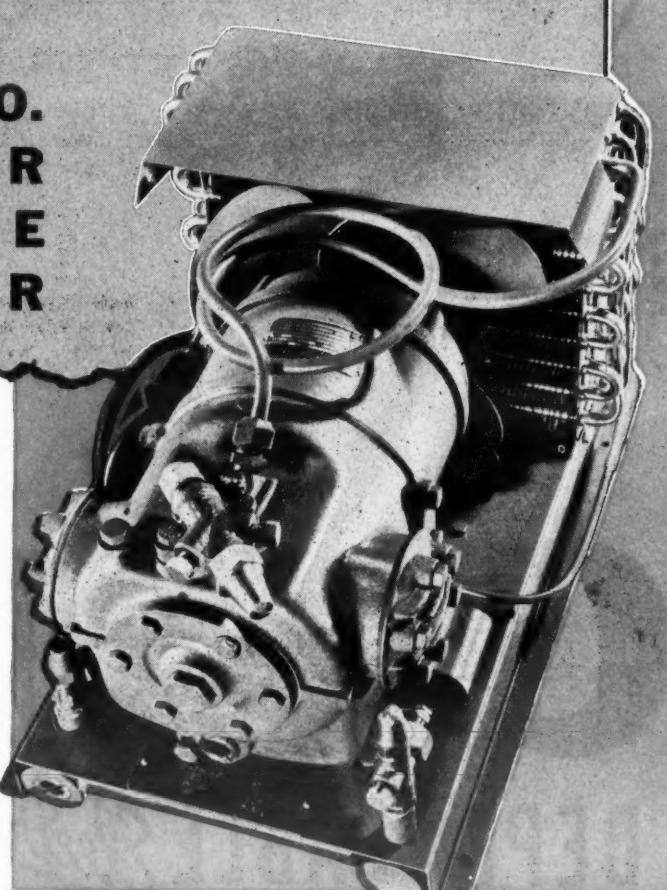
To go into the selling end, the repairman will have to put up more investment, for he is required to buy floor stock as well as equipment to sell. Even with financing, this costs a certain amount of money, said Mr. Reed.

One of the main problems in operating a selling business involves the accounts receivable, and although the dealer can turn to finance companies for assistance, he must remember that finance companies may ask for hold-backs of as much as 10%, he pointed out.

A small dealer with \$350 monthly fixed expenses paying himself \$300 a month salary must take in at least \$7,800 yearly in gross profit. Figuring a 35% discount, this means he must produce \$22,285 a year in sales, which is "no vacation," said Mr. Reed.

## MILLS INDUSTRIES INC.

USE  
MUELLER BRASS CO.  
PARTS IN THEIR  
DIRECT DRIVE  
COMPRESSOR



MILLS INDUSTRIES INC.  
4100 FULLERTON AVE. • CHICAGO, ILL.

Mills Industries, Incorporated, Chicago brings to the refrigeration market a new type compressor—a direct-drive unit.

An electric motor, assembled directly into the compressor casting, drives the compressor directly with the motor rotor mounted on the compressor shaft. The compressor runs at motor speed, 1750 R.P.M. This is approximately four times as fast as the standard belted type of prewar compressors.

Since these new direct-drive compressors run four times as fast as the old machines, the cylinders are only one-fourth as large for the same capacity. Belts, flywheels, and pulleys are eliminated.

This compressor is the result of years of painstaking tests under trying conditions. They will be easier to inspect and service; standardization of parts will make them easier to manufacture. The universal demand for compactness and lightweight will be built into their new direct-drive unit. Rugged construction, skillful engineering and the highest type parts are the keynote of this unit.

These Products

# MUST BE GOOD!

### BUILT-IN QUALITY—TIME-TESTED PERFORMANCE

Mueller Brass Co. Valves, Fittings and accessories are sturdily and dependably built. They have a well-earned reputation for built-in quality and time-tested performance.

The Mueller Brass Co. line of refrigeration products is exceptionally complete, and all products are designed and manufactured specifically for mechanical refrigeration work. THEY ARE USED BY ALL OF THE LARGEST MANUFACTURERS THROUGHOUT THE UNITED STATES.

OBVIOUS CONCLUSION: Mueller Brass Co. products must be good!

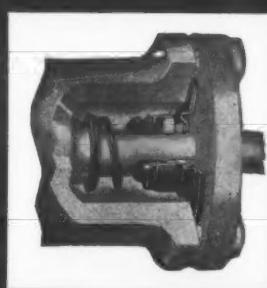
MUELLER BRASS CO.  
PORT HURON, MICHIGAN



### ROTARY SEAL REPLACEMENT UNITS

for

Refrigerator Compressors



Available for Over 752 Models  
of Refrigerating Assemblies.

Rotary Seal has pioneered in the manufacture of mechanical shaft seals. Because of this specialization it offers the best in shaft sealing.



ROTARY SEAL COMPANY  
2020 N. LARRABEE ST., CHICAGO 14, ILL.  
Canadian Office: 382 Victoria Ave., Montreal 6, Canada

**Freezer Prices****Gamble & Hawley Freezer**

KANSAS CITY, Kan.—Retail ceiling for sales of the Gamble & Hawley, Inc., 20 cu. ft. farm and home freezer powered by a  $\frac{1}{3}$  hp. condensing unit was set at \$519 in Order 375, MPR 591. Maximum prices on sales to distributors and dealers are \$279 and \$334, respectively.

**Modern Fixture Co.**

HOBOKEN, N. J.—In Order 374, MPR 591, OPA established the following price ceilings for sales of Modern Fixture Co.'s 16 cu. ft. freezing cabinet equipped with a  $\frac{1}{3}$  hp. condensing unit: On sales to distributors, \$245; to dealers, \$294; and to consumers, \$490.

The above prices are f.o.b. the seller's city, and are subject to the usual discounts and allowances, OPA said.

**7 H.K. Thompson Models**

ELMA, Wash.—Seven models of freezing units manufactured by H. K. Thompson here were assigned maximum OPA prices in Order 378, MPR 591, as follows:

	On Sales to—	Dis-	Deal-	Con-
	Distributors	Dealers	Summers	sumers
8 cu. ft. $\frac{1}{4}$ hp. condensing unit	\$150	\$180	\$300	
12 cu. ft. $\frac{1}{4}$ hp. condensing unit	190	228	380	
16 cu. ft. $\frac{1}{4}$ hp. condensing unit	230	276	460	
20 cu. ft. $\frac{1}{4}$ hp. condensing unit	270	324	540	
24 cu. ft. $\frac{1}{4}$ hp. condensing unit	295	354	590	
26 cu. ft. $\frac{1}{4}$ hp. condensing unit	315	378	630	
36 cu. ft. $\frac{1}{4}$ hp. condensing unit	355	426	710	

These prices, OPA said, are subject to the usual discounts and allowances and the extension of services comparable to those extended to the same class of purchaser on Oct. 1, 1941.

**Pearce 12 Cu. Ft. Freezer**

LYNDON, Vt.—Manufactured by C. E. Pearce here, a 12-cu. ft. farm freezer will retail at \$420 under Order 341, MPR 591, recently issued by OPA.

Other ceilings established for the freezer, Model P.S.C. 18, are \$210 on sales to distributors, and \$252 on sales to dealers. The unit is equipped with a  $\frac{1}{4}$ -hp. condensing unit.

**Borgen & Beam Model**

PORTLAND, Ore.—Borgen & Beam's 12-cu. ft. home food freezer will retail at \$375 and its 18-cu. ft. model at \$435 according to Order 343, recently issued by OPA under MPR 591.

Following is the complete price schedule:

	On Sales to—	Dis-	Deal-	Con-
	Distributors	Dealers	Summers	sumers
B & B home food freezer 12 cu. ft.				
$\frac{1}{4}$ hp. condensing unit	\$215.00	\$258.00	\$375.00	
B & B home food freezer 18 cu. ft.				
$\frac{1}{4}$ hp. condensing unit	275.00	330.00	435.00	

**Buffalo Appliance Firm**

BUFFALO—A business name has been filed for the J. & R. Radio & Appliance Co., 619 Walden Ave., by Richard H. Smith.

**Gulf States Refrigeration & Appliance Co.**

We have a real Sales and Service organization and more dealers than any concern in the South. We cover Seven Gulf States, and have appliance dealers conveniently placed for what you want to sell.

519 Carondelet Street  
New Orleans 12, La.

**Super-Cold Corp. Plans New Common Stock Issue For Added Capital****A.F. of L. Federal Charter Accepted by Carrier Corp. Hourly Employees**

SYRACUSE, N. Y.—Hourly employees of the Carrier Corp. became affiliated with the A.F. of L. upon acceptance of a federal charter from the union at a special meeting in Culinary Hall here.

The charter was presented by a national representative of the A.F. of L. and accepted by James Oliver, president of the new union which recently voted to affiliate with the A.F. of L. if a direct charter from its international body were granted.

It is reported that this organization becomes the bargaining agency.

**Midwest REWA Meet Planned for June 7-8**

DENVER—June 7-8 has been set as the date for the next meeting of the Midwest Refrigeration Equipment Wholesalers Association here, it is announced by E. L. Bengston, secretary-treasurer. Reservations for the meeting, which will be held at the Hotel Cosmopolitan, may be made by writing Harold McCombs, McCombs Refrigeration Supply Co., 1524 15th St., Denver 17, Col.

**New Buffalo Firm Starts**

BUFFALO—A business name has been filed for the Russ Mickler Radio & Appliance Store, 1139 Kenmore Ave., by Charles R. Mickler.

**Coolstream Corp. Moves to New Brooklyn Location**

BROOKLYN — The Coolstream Corp., manufacturer of electric water coolers, and the Controldtemp Equipment Sales Co., have moved to 236 Butler St., Brooklyn 17, N. Y., announces Lionel Berken, president and general manager.

**Contractor's Officers Named**

BUFFALO—Officers of the Refrigeration Contractors Association of Western New York, recently organized at a meeting in Hotel Lafayette, are: chairman, David Zimmerman; vice chairman, Max Rosen; secretary, Ralph Davis; and treasurer, Howard Hornung.

**QUALITY ITEMS****in the Refrigeration Field!**

Obtain the superior performance which use of PEERLESS PRODUCTS

brings to your installations. Here are products made in a wide range of

sizes and capacities, constantly reliable, giving the trouble-free operation

which brings you more business. PEERLESS PRODUCTS are engineered to

bring your customers the satisfaction which brings them back to you!

SOLD THROUGH LEADING REFRIGERATION SUPPLY WHOLESALERS

PEERLESS OF AMERICA, INC.

EXECUTIVE AND GENERAL SALES OFFICES

333 NORTH MICHIGAN AVENUE, CHICAGO 1, ILLINOIS, U.S.A.



# 'Life' Survey Reveals Dealer View that Seller's Market Is Vanishing, Intensive Selling Needed

NEW YORK CITY—The need for aggressive promotion in the appliance retailing business will come very soon—and no one knows it better than some of the veteran, successful dealers, it is shown in a recent spot survey made by the *Life* magazine merchandising department.

Most of the dealers contacted seem to feel that the so-called "seller's market in appliances" will do well to last out 1946, and one dealer predicts that it "will last just about one fifth as long as most people think."

Another sums it up this way:

"During the 'kick-off period' there'll be a scarcity of merchandise and plenty of headaches—but there'll be need for real merchandising before we realize it."

The vast majority of the dealers expressed the feeling that OPA policies might destroy any hope of dealer prosperity, and one dealer drove home the point that a 'squeeze' on the retailer would 'soft pedal' all appliance promotion, no matter how badly needed.

Following are some of the conclusions drawn by the *Life* merchandising experts (the parts printed in *italics*) followed by a few of the comments of the dealers surveyed:

*Most dealers and distributors seem skeptical about the huge backlog of buyers reported by surveys. Why? Well, in the first place, they say that experience with "priority lists" has*

*made them doubtful of a consumer's statement of his buying plans . . .*

"I will give you an example of what happened in my case where we asked a number of customers if they would like to have their name on a preference list to be notified when a certain Pressure Sauce Pan was available; 127 said 'yes.' Very recently we put out a letter to these 127 people, asking that they come in or mail a small deposit assuring us that they would accept delivery on the item, as shipments were beginning to arrive. We received a deposit from about 50% of the 127, which indicates that the other 50% did not want one very bad, if at all. I really think that many of the 'prospects' turn out to be merely 'suspects' when they have a chance to buy."

A. S. MEINECKE, Owner,  
Meinecke Bros.,  
Lubbock, Tex.

"Our experience of last week might answer your second question. For some time we have accepted priority registrations. Last Monday we received one Bendix standard washer, one Bendix deluxe washer, and three G.E. 7-cu. ft. deluxe model refrigerators that we would sell. It took 13 contacts of priority registrants to place the two Bendix. Of course, only prospects who registered for Bendix were contacted. Here's how they went:

1. Sold Deluxe
2. Unable to contact—moved
3. Wants one later
4. Wants one later
5. No answer in 5 days
6. Wants conventional washer
7. Wants Deluxe
8. Wants Deluxe
9. Has made down-payment elsewhere
10. Wants conventional washer
11. Wants Deluxe
12. Unable to locate—moved
13. Sold Standard

The three G.E. Refrigerators were placed with 11 contacts:

1. Wants smaller one
2. Sold
3. Left message with neighbor—no answer
4. Already bought
5. Wants a 9 ft.
6. Wants a 5 ft.
7. Unable to contact
8. No reply to message
9. Sold
10. No reply to message
11. Sold

Summarizing:

Already bought elsewhere . . .	1
Apparently not interested or have deposit elsewhere . . .	8
Not ready to buy now . . .	2
Want other models or sizes . . .	8
Bought from us . . .	5

24  
"From this it seems that quite a

number of our 'prospects' are really suspects."

NORMAN BROWN,  
Sommers-Brown,  
Memphis, Tenn.

\* \* \*  
Over 25% of all the letters received from dealers mention DUPLICATION as one reason why Priority Lists don't give a 100% yield of good prospects . . .

"In general the 'priority register' will turn out to be a farce. Many customers register on several of these sucker lists and then buy from the first dealer who will deliver."

ED BELL,  
Bell's Hardware,  
Klamath Falls, Ore.

\* \* \*  
". . . in checking some of these priority lists on a number of dealers in some of our larger towns, it is amazing how many times you will find the same names repeated on different dealer lists. I can recall at this moment a very peculiar name that couldn't help drawing attention to itself as it appeared on six different dealer lists in the same town."

H. J. VOIT,  
Manager, Appliance Dept.,  
Morley-Murphy Co.,  
Milwaukee, Wis.

\* \* \*  
**How Long a Honeymoon?**

*If the buyers are going to be coy, how long will the seller's honeymoon last?*

"We are certain the seller's market will not last anywhere near as long as has been indicated in newspaper and magazine articles."

W. F. MOGLE,  
Mogle Radio Co.,  
Winfield, Kan.

\* \* \*  
". . . it is our opinion that the seller's market on appliances will last just about one fifth as long as most people think."

I. H. PARKS, Vice President,  
The Auto Equipment Co.,  
Denver, Col.

\* \* \*  
*Not every dealer who wrote cared to commit himself as to the exact time the buyer's market would begin. However, this we can report. About a third of them said in effect, that it would be "soon."*

". . . the seller's market will be brief. Already customers are cooling off. When they see the first new model on the sales floor they say 'it looks good, but we'll look at other new makes before we decide.' If the public generally did not have such a wholesome respect for the volume-manufacturing ability of American factories, they might stampede in an attempt to get their share of the first products that become available.

"But, almost everybody thinks that it will be but a few months until the factory production will exceed the ready demand. As greatly increased production is anticipated, there is no shortage scare to force buyers into a panicky mood."

J. W. THIELE,  
Thiele-Winslow Co.,  
San Antonio, Tex.

\* \* \*  
*50% more mention some time between now and the close of the year 1946 . . .*

"The seller's market can only last until such time as the supply is greater than the demand. Barring strikes, this point should be reached by the middle of 1946."

C. J. BACHMAN,  
Pacific Coast Sales Mgr.  
Nash Kelvinator,  
Oakland, Calif.

\* \* \*  
*We believe the seller's market will last approximately six months."*

E. A. LINDQUIST,  
Sterling Electric Co.,  
Minneapolis, Minn.

\* \* \*  
**Labor Troubles Big Factor**

*Dealers cite the effect of labor-management relations on both consumer willingness to spend, and on production:*

"Another factor which has entered into the picture in recent weeks, and to the writer's mind is becoming serious, is the psychological reaction of the public to the labor unrest. The people are getting both disgusted and out of patience with the unreasonable demands of labor, and they are also becoming apprehensive and fearful of a tail spin and nose-dive due to the combination of labor's demands and the Government's acquiescence by not taking any

definite stand. We have noticed a marked trend lately in people being afraid to spend the money they have saved because of fear of the future."

C. H. DETWEILER,  
Detweiler Bros., Inc.,  
Twin Falls, Ida.

\* \* \*

"Unless Labor and Management get together on a fifty-fifty basis, we can forget all about a good future in the appliance business for everyone concerned."

W. H. ROTH,

President,  
Roth Appliance Distributors, Inc.,  
Milwaukee, Wis.

\* \* \*

*Great concern is shown over O.P.A.'s action or inaction:*

"Each industry has its own problems. Reconversion is lagging fully three months behind anticipated schedules due almost wholly, in our opinion, to OPA price policies which are peculiarly tied in with conditions under which labor increases can be passed on. In many instances refusing a few pennies increase to a parts manufacturer is tying up the whole industry."

ROBERT F. CLARK,  
The Robert F. Clark Co.,  
Denver, Colo.

\* \* \*

"If the O.P.A. is retained and permitted to force business to operate without profit, or at a loss, the post-war boom bubble will burst before it even gets under way."

S. P. O'BANNON,  
O'Bannon Brothers,  
Little Rock, Ark.

\* \* \*

"It is my considered opinion that because of the squeeze put on the retailer by the Office of Price Administration on electrical appliances, that merchants, who know what it costs them to do business, will soft pedal all appliance selling. The profit margin at the retailer's level is below the breaking even point and any of these goods that are sold will be handled purely on an accommodation basis."

STANLEY S. GOLD,  
Gold Furniture Co.,  
Huntington, W. Va.

\* \* \*

**Start Promotion Now!**

*But whether hoping that the big buying backlog is real, or fearing it will melt away soon, almost everyone agrees that real selling, vigorous PROMOTION should start at once:*

"The appliance honeymoon will be over very shortly and we will have to buckle down to real 'selling.' The great complacency, thinking that customers will be lined up for months to come to buy their products. I don't think so unless we promote our merchandise vigorously with a determined effort to develop these customer desires into actual sales. Unless we follow through with aggressive selling efforts many sales will die aborning."

"Yes, the market surveys indicate a wide-spread interest in appliances—a situation all should take account of and plan to promote by a very aggressive job of selling."

"During the kick-off period there'll be a scarcity of merchandise and plenty of headaches—plenty of customers to take away the early production—and plenty of clamoring for first service—but there'll be need for real merchandising before we realize it."

WALTER ENGARD,  
Mgr., Appliance Div.,  
Tom F. McDermott, Inc.,  
Tulsa, Okla.

\* \* \*

"I believe that as soon as the public is able to go from dealer to dealer and find merchandise on the floor, the market is going to change from one of the seller's market to one of the buyer's market, and those dealers who feel that it will not be necessary to aggressively sell their products will find that their business is going to suffer."

H. J. VOIT,  
Manager, Appliance Dept.,  
Morley-Murphy Co.,  
Milwaukee, Wis.

\* \* \*

"It is my frank opinion that there will be no 'under the counter' systems used. Each retailer is anxious to capture his share of the prevailing business, and we are confident that every attempt will be made to publicize appliances, and in most cases, it will result in 'first come first served' handling."

E. J. LAUGHLIN,  
General Sales Mgr.,  
E. W. Edwards & Sons,  
Rochester, N. Y.

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# Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)  
ment—the Idea Man. Possibly he can fumble us into another war within five years, or maybe he can help break the recurrence of wars for two generations. What a spot he occupies!

Chester Bowles, who is the Nation's Economic Stabilizer, can encourage the rehabilitation of America's extravagantly successful Free Enterprise System or, he can (unless checked by Congress) hamstring us to the point where we must give up our liberties and our opportunities so as to integrate ourselves into a world-wide swing toward bankrupt collectivism.

No kidding! That's how much power he wields as Economic Stabilizer!

There they sit—the two bright young men who made a fortune during the 1930's by playing hunches and by using their undeniably sharp noses.

They got into business fast—made a quick killing—and got out fast. Next, they got into government fast. Will history repeat itself?

## Why We're Skeptical

What do they know about the Facts-of-Life—economically and politically speaking? Maybe they know plenty—but how substantial is their record? Well, we shall see what we shall see.

We're always skeptical about men who retire young.

Obviously, they have worked only for money, rather than for the service motive. The men we admire most are those who die with their boots on.

Let's keep our fingers crossed about these two—and our powder dry!

America has been plagued with Bright Young Men in government during the last decade-and-a-half. What we need is more Barney Baruchs.

## Excellent Publicity

Chester Bowles, the CIO-PAC strategists tell us, has become the National Symbol of Resistance to Inflation. He's a good bet to become their next candidate for President—if bumbling, fumbling, stumbling Henry Wallace can't make the grade.

Are they serious? Do they really believe that deep-jawed Chester Bowles can be elected President?

Esconced comfortably in his Connecticut home with his annuities and his dividends, he sallies forth to tell American industry what it shall and shall not do. (This is fun—one of his former associates has told us—because certain industrialists once blue-pencilled his advertisements when he was working for a living.)

When you compare him with Truman and Wallace, of course, he stacks up fairly well. But how sound is he? How aware is he? Through what fires has his judgment been tempered? All we can judge by is the record.

**For DEPENDABLE Refrigerants**

**SPECIFY "EXTRA DRY ESOTOOL"**  
(Liquid Sulfur Dioxide)

**"V-METH-L"**  
(Methyl Chloride)

Distributors of  
**"FREON" REFRIGERANTS**  
11, 12, 21, 22, 113

**VIRGINIA SMELTING COMPANY**  
WEST NORFOLK, VIRGINIA  
NEW YORK • BOSTON • DETROIT

## How OPA Prevents Prosperity

Already his bureaucracy has created many impossible situations. Without trying very hard, it has prevented the production of needed components for consumers durable goods.

Here's a specific example:

A firm which, before the war, produced an electrical control at a cost of \$89 now finds that its production cost has risen to \$124.

That control formerly sold at \$1.15. Under Chet Bowles' direction, the OPA has allowed this harried firm a price-rise of four cents. So now it is priced legally at \$1.19.

How many controls do you think that company will produce during 1946, if every one it makes is sold at a loss of five cents?

Answer: None!

## Quoting Henry Ford II

The following paragraph from a letter written by young Henry Ford to Chester Bowles details this OPA-sponsored *impasse* graphically:

"Another supplier has been making small but vital truck parts for us for 50 cents each. His material prices had gone up so much after V-J Day that he asked OPA for

permission to charge 61 cents. OPA said 'No.' They were willing to go as high as 54 cents. But the supplier could not produce parts at that figure, and so he stopped manufacturing.

"After considerable delay, we finally found two new suppliers. One is now furnishing us with the necessary parts at 82 cents, and one at 84 cents, both with OPA approval."

It's entirely possible that the OPA can force us into another depression—even though everything is ripe for a boom!

## The A-B-C's of Inflation

Inflation always takes place when the supply of money rises while the supply of goods remains inadequate.

By sponsoring wage increases, and by borrowing more and more, the current Democratic Administration has blown up the money-supply enormously.

At the same time, by its administrative interpretation of price control, it has curtailed production.

Result is a "managed" economy in which prices have no relation to demand and supply, but reflect only the arbitrary and uninformed opinions of dozens of little bureaucrats.

The OPA, as it is being administered currently, is a living symbol of the bumping-heads type of "brass hat" administration which has become inherent in American bureaucracy.

Are these guys geniuses, or accidents?

You tell us!

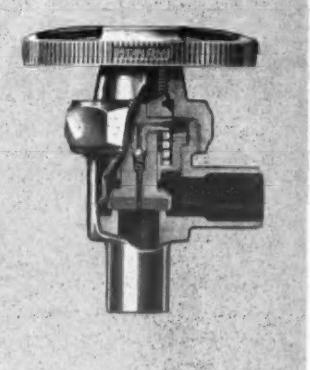
## 2 WAYS TO WIN A FRIEND...



SCHOFIELD

### 1. DEAL HIM A ROYAL FLUSH

### 2. EQUIP HIS SYSTEM WITH HENRY PRODUCTS



**BALANCED ACTION DIAPHRAGM PACKLESS VALVES**  
Non-directional. Cannot stick shut regardless of differential in pressure above or below valve seat. Ports-in-line eliminate tube bending. One of many Henry Products serving the industry.

• You deal a winner for your customer and yourself every time you install a Henry Product. The winning combination of Henry Packless Valves, Driers, Strainers, Relief Valves and Flow Control Devices hits the jackpot—customer satisfaction and more profit for you. Success is "in the cards" for men who use and sell Henry Products. Call us—it's no bluff.

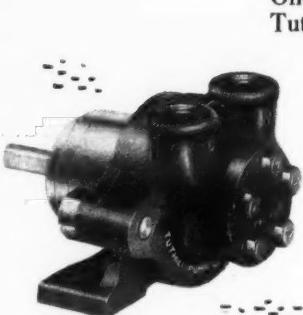
# HENRY VALVE COMPANY

Packless and Packed Valves • Strainers • Driers for Refrigeration and Air Conditioning  
Ammonia Valves • Forged Steel Valves and Fittings for Oil, Steam and Other Fluids

3260 WEST GRAND AVENUE  
CHICAGO 51, ILLINOIS



## MINIMUM POWER CONSUMPTION



One of the big features of the mechanically sealed Tuthill Pump is its low power consumption. You couldn't ask for a more dependable pump for pressure lubrication. Quiet, leakproof and engineered for long, trouble-free service, Tuthill Pumps help assure the performance you want in your product. Capacities up to 3 g.p.m. in types to meet your small pump requirements. Write for Tuthill General Catalog.

# TUTHILL

TUTHILL PUMP COMPANY • 939 EAST 95TH STREET • CHICAGO 19, ILLINOIS

### GENERAL CONTROLS'

### Thermal Expansion

### REFRIGERANT

### VALVE

**Thoroughly field-tested** for Freon, Methyl Chloride and Sulphur Dioxide.

**Easily-removed** orifice cartridges eliminate need for stocking several sizes for low tonnage installations.

**Ample** diaphragm plus balanced, low-rate adjusting spring.

**Carefully-lapped** hard-faced ball insures tight shut-off.

**Frictionless** pusher pin.

**Semi-liquid charged;** may be placed in ambient temperatures higher or lower than bulb temperatures with no loss of control.

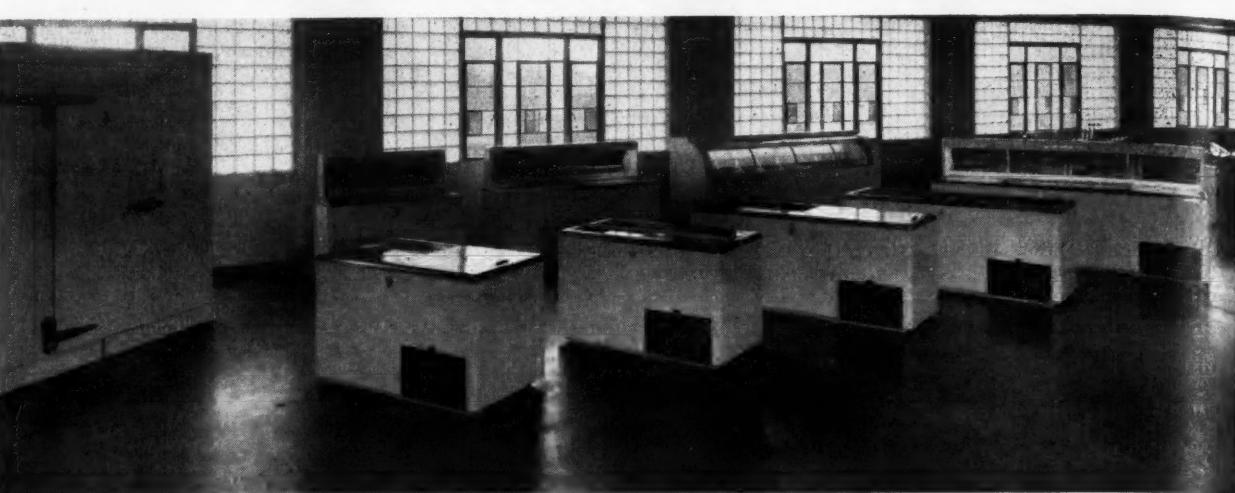
**Unmatched** sensitivity.

For complete specifications on the V-200 and other refrigerant controls in the broad GENERAL CONTROLS line, write for your copy of Catalog 52B. Send request to your nearest GENERAL CONTROLS branch, distributor or refrigeration supply house.

**GENERAL**  **CONTROLS**  
801 ALLEN AVENUE GLENDALE 1, CALIF.

FACTORY BRANCHES: ATLANTA • BOSTON • CHICAGO • KANSAS CITY • DALLAS • DENVER • DETROIT • PHILADELPHIA • NEW YORK  
CLEVELAND • SAN FRANCISCO • HOUSTON • SEATTLE • PITTSBURGH • DISTRIBUTORS IN PRINCIPAL CITIES

7-1



Weber Showcase & Fixture Co. recently put on a preview of its new products for district sales chiefs. In the foreground are the "Roll-a-door" ice cream and frozen food cabinets, while in the center and right background are self-service cabinets, with "mirrored superstructure" or other special designs to provide maximum display of the refrigerated products.

### Arctic Prices Established For Trade and Public

MILWAUKEE—Arctic Refrigeration Co.'s 12-cu. ft. refrigerator equipped with a  $\frac{1}{4}$ -hp. condensing unit can be sold to distributors, dealers, and consumers at prices not to exceed \$220, \$264, and \$440, respectively, according to OPA Order 389, MPR 591.

Addition of freight costs not to exceed lowest common carrier rates and crating charges not in excess of \$6 are allowed on sales by distributors and dealers.

### Beverage Cooler Prices Set on Kelvinator Line

DETROIT—Four models of beverage coolers manufactured by Nash-Kelvinator Corp. here were given the following ceiling prices by OPA Order 390, MPR 591, on sales to specified customers:

Model	On sales to extract companies	On sales to company bottlers	On sales to bottling company dealers
KS 154D	\$125.16	\$137.55	\$165.00
KR 154D	125.16	137.55	165.00
BC 154D	125.16	137.55	165.00
KN 150D	125.16	137.55	165.00

Addition of freight and crating charges are permitted, and the above prices are subject to the usual terms, discounts, and allowances, OPA said.

### Leland Electric Resumes Production of Motors

DAYTON, Ohio—After a 60 day shutdown caused by shortages of materials due to the steel and copper strikes, the Leland Electric Co. here has again resumed operations, with the first shipment of completed motors scheduled for April 24, it was announced.

Leland, it is claimed, has an order backlog sufficient to keep the plant in production until the second quarter of next year. Currently, the company has a good supply of steel on hand, and enough copper to insure operations for six or seven weeks, it is reported.

### Balder Co. Given 6% Motor Price Increase

ST. LOUIS—Balder Electric Co. here has been authorized by OPA to increase the present ceilings on its fractional horsepower motors by 6%, according to SO 142 to Order 53. Maximum prices on all Balder products, other than fractional horsepower motors, may be increased by 10%, OPA said.

Resellers of all Balder products have been granted permission to increase their ceilings now in effect by the same percentage as their net invoiced costs have been increased by virtue of this order.

### Veteran Establishes Agency In Ada, Okla.

ADA, Okla.—Earl Wheeler, a senior refrigeration mechanic with the air corps, has been discharged, and opened a new refrigeration sales and service agency known as the Wheeler Supply Co. at 107 South Mississippi St. here. He has secured the Frigidaire agency.

### SEND FOR THIS BIG-NEW-COMPLETE CATALOG and BUYERS GUIDE OF Refrigeration and Air Conditioning PARTS★TOOLS★SUPPLIES

The supply is limited so send for your copy NOW! Reserved exclusively for the wholesale trade. Please send proper identification with your request.

**CHASE refrigeration supply co. INC.**  
546 WEST 119<sup>th</sup> ST., CHICAGO 28, ILL. — Phone PULman 5125



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## New Devices for Frozen Foods Demonstrated at New York Show

NEW YORK CITY—Of the some 50 exhibits at the "Frozen Food Fair" held here March 27 to March 31 under the auspices of the Frozen Food Institute, about a dozen were devoted to refrigeration equipment, or accessories to be used with refrigeration equipment.

Other exhibits consisted of packaging devices, frozen food products, and various kinds of auxiliary equipment and supplies.

Frozen food display cabinets were exhibited by Weber Showcase & Fixture Co., Inc.; Jordon Refrigerator Co.; Paley Mfg. Corp.; Refrigeration Corp. of America; and Goodsell Corp.

The Jordon company also had its first public showing of its "King Kold" farm and home freezer. The Maytag Atlantic Co., Inc., distributor, exhibited the Deepfreeze home freezer.

### TRUCK SYSTEMS SHOWN

The "Trail-Aire Conditioner" was shown by the Fruehauf Trailer Co. This is a truck trailer with 30,000 pounds of payload, insulated with 6½ inches of Fiberglas insulation, and is capable of maintaining temperatures of 0° F. The special reverse cycle refrigeration system provides heating instead of cooling when necessary.

U. S. Thermo Control Co. displayed its truck refrigeration system, which has been described in the NEWS.

Also exhibited was a hand-made sample of the "Frez-O-Mat," developed by Milton Rifken of Denver. It is designed as a self-service frozen food and ice cream dispenser.

Each frozen food product is placed in one of 35 miniature lockers, each having an individual door labeled with a facsimile of the product and the price. As the door is pulled open the package automatically tips into the customer's hand as another one slips into place. Three or four customers may shop simultaneously.

On the top of the "Frez-O-Mat" is a prominently displayed board with a signal lamp for each food compartment, which lights when it needs restocking. At the top of this board is a red signal informer lamp that indicates power failure or any other

disturbance in the electrical connections that might cause an increase in the cabinet temperature.

Below the individual dispensing compartments is a two-door storage compartment maintained at cabinet temperature.

Two models have been field tested in Chicago, said Mr. Rifken, and he believes production of the equipment will be underway in July.

### 'MEGATHERM' GETS ATTENTION

Another product which drew considerable attention was the Megatherm, the device that defrosts frozen foods by means of dielectric heat. Attendants at the exhibit were kept busy telling visitors that the device is not yet available for home use.

The manufacturer, Federal Telephone & Radio Corp. of Newark, claims that a 33-pound block of frozen strawberries can be completely defrosted in 10 minutes from an initial temperature of 0° F.

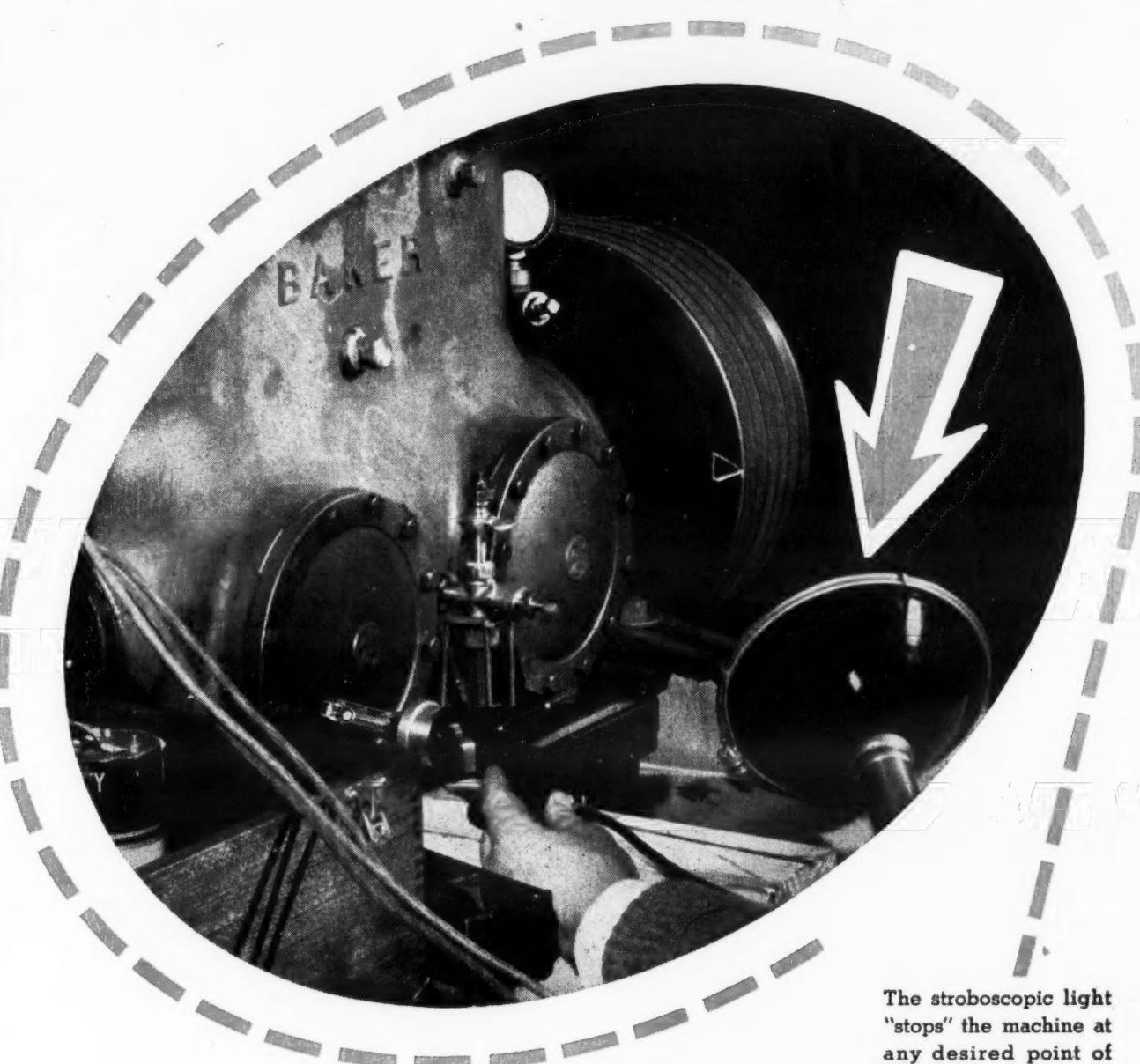
The frozen block of produce is placed on a grill inside the enclosure called the "oven." With the plate electrode directly overhead, the switch is closed and high frequency power flows from the adjacent unit to the grill and plate, passing through the frozen block. The grill and plate remain cold during the process while the temperature of the berries rises to 34° F.

### Texas Freezing Plant To Use Texas U. Process

CARRIZO SPRINGS, Tex.—A large new quick-freeze plant has started operations here as the Mogford-Food Industries, Inc. with plans to process 50,000 pounds of vegetables and berries daily. The firm is headed by R. R. Mogford and is at present constructing a \$150,000 plant.

Local vegetable packing will be supplemented by freezing of Mexican pineapple and coconut and later will handle gulf shrimp.

It will use the Bartlett process of flash freezing as patented and developed by the research section of the University of Texas.



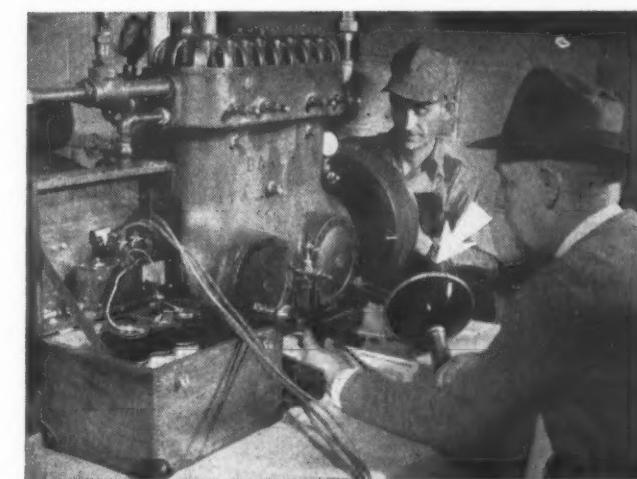
The stroboscopic light "stops" the machine at any desired point of the piston's stroke.

## From Full Speed to a Dead Stop

**—in a millionth of a second!**

The stroboscopic light, used in the Baker Testing Laboratories, "stops" the action of a Baker compressor at any speed. Thus Baker testing engineers can "see" the smallest defect in the machine while it is running at top speed.

Still another of the painstaking tests that make the Baker name mean long life and dependable performance.



Delicate electronic instruments search out defects as small as 1/10,000 of an inch.

# Baker!

ICE MACHINE CO., INC. OMAHA

MANUFACTURERS OF REFRIGERATION AND AIR CONDITIONING EQUIPMENT SINCE 1905

**HANDLE ONLY  
ONE PART ... to re-charge  
the DFN system!**

### SIMPLE . . FAST . . FOOLPROOF

WHEN the long life of a DFN cartridge is ended, replacement is easy and inexpensive. Just open the flange, take old cartridge out of shell, slip in a new one, bolt it up. That's all there is to it. No disassembly and re-assembly of delicate strainers, screens and filters; no handling of loose drying agents; no loss of dehydrating strength due to exposure.

The DFN cartridge is complete . . . ready to use. It contains drier, strainer, filter . . . all scientifically factory-assembled for you. It provides full strength dehydration, because it reaches you hermetically sealed until used.

The anti-sediment assembly of wire mesh, bronze wool and felt, filters to minute size—holds more sediment without pressure drop. Ask your distributor about the DFN System—or write us for catalog R-7.

**WIRE MESH PRODUCTS**  
Monel Brass Bronze  
Refrigerant, Oil and Other  
Liquids Fabricated to  
Specification



**DEHYDRATES  
FILTERS  
NEUTRALIZES**  
FILTERS • NEUTRALIZERS

McIntire Connector Co., 261 Jefferson St., Newark 5, N.J.

## They'll Do It Every Time . . . By Jimmy Hatlo



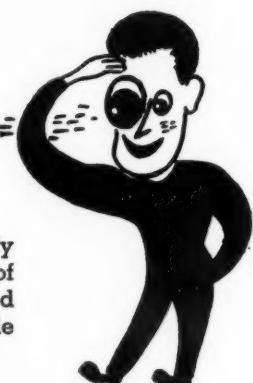
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Buy VICTORY Bonds



**ear to the ground . . .**

**... eye to the future**



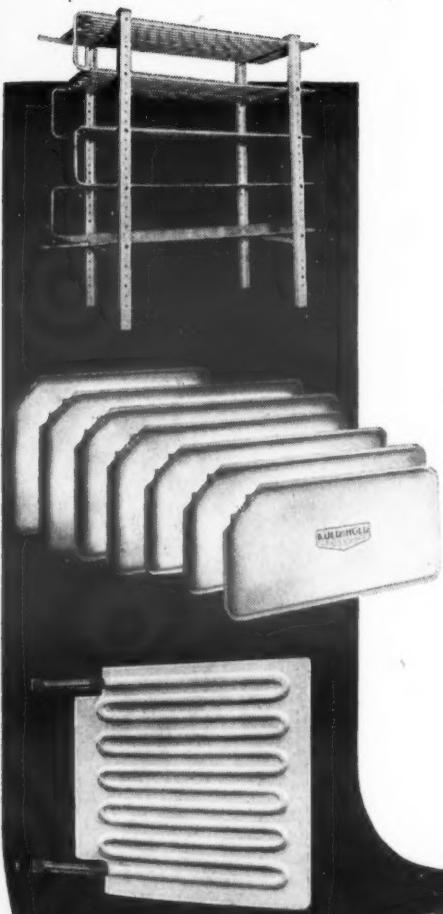
Keeping an ear to the ground has enabled Kold-Hold Engineers to fully satisfy changing refrigeration needs for over a decade in the transportation and storage of perishable items. With an eye to the future, Serpentine Plates have been developed to provide a more satisfactory, modern, low cost method of protecting perishable goods through complete processing between the farmer and consumer.

The construction of Serpentine Plates eliminates the necessity for internal tubing thereby decreasing their weight per square foot. It also insures complete refrigerant circulation through all tubes and prevents oil logging. The Serpentine Principle develops the highest rate of heat acceptance ever attained with natural convection low-sides.

Whether used as Plates, Banks of Plates or Fabricated into Stands or Liners, Serpentine Plates have unlimited possibilities in the development of newly designed units. In addition they are also ideal for the conversion of old cabinets, coolers or fountains.

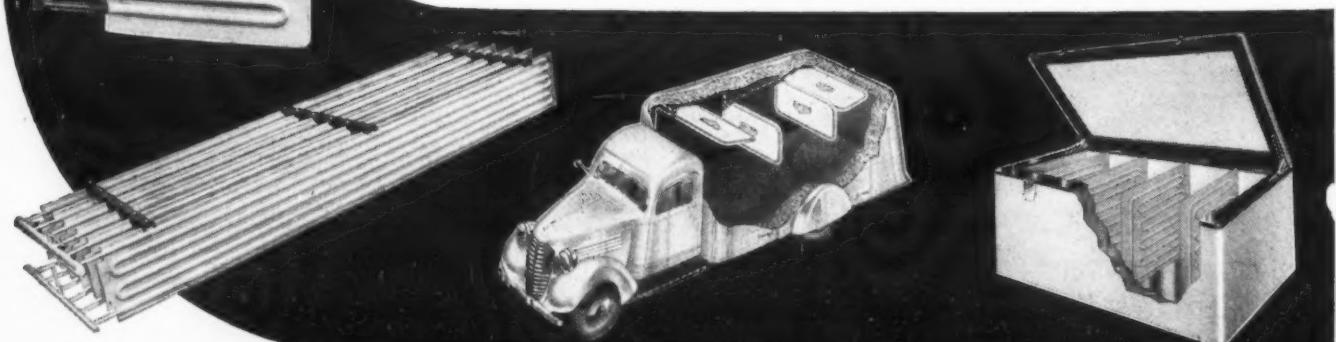
In truck refrigeration streamlined "Hold-Over" Plates maintain the temperature of delivery truck bodies at the uniform level necessary in the successful transportation of fresh meat, ice cream and frozen foods.

Keeping an ear to the ground and an eye to the future through use of Serpentine Plate Type Evaporators will build greater profits for you through more satisfied customers . . . less spoilage . . . and lower operating costs. Write today for full information on these modern refrigeration methods.



# KOLD-HOLD

KOLD-HOLD MANUFACTURING COMPANY  
500 North Grand Avenue Lansing 4, Michigan



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## Can We Continue To Count On That Lush Market?

R ECONVERSION delays, strikes, and price confusion may have resulted in a dwindling of those lush markets which appliance dealers have been counting on as being "in the bag."

And, consequently, a revision of projected figures regarding previously-accepted notions relating to that extraordinary demand for consumer goods possibly should be made at this point.

An era of scarce products—such as we are just passing through—gives rise to a belief that unlimited quantities of practically anything can be sold.

However, this fulsome, buxom picture has changed greatly since January 1. It's time to realign our sights.

A boom-and-bust cycle for our nation is inevitable unless "industry" accurately gauges the true demand for its products during the next five years.

### Eating It Up

Cash saved by war workers for the purchase of new and wanted products may have been spent in other channels. (As, for instance, cheap night-club entertainment.) By strikers, this saved-up cash has been spent for food and clothing, and coal.

It's possible that many of these bravado strikers have "eaten up" their new automobiles and their needed refrigerators.

When toasters, vacuum-cleaners, automatic washers, oil burners, and other appliances were not available at the end of the war, or a few months later, many thrifty workers became discouraged about their chance for quick possession of the desired goods.

And so they have been spending accumulated savings for trips, and for night-club parties.

Strikes—together with pricing difficulties—are blamed, to a great extent, for the postponement in the nation's reconversion program. But placing the blame doesn't resolve the difficulties.

### Strikers Their Own Worst Enemies

Inasmuch as the worker is also a consumer, the strikes that have riddled the reconversion program also spell a scaled-down market for industry's highly-touted products.

How much consumer buying power has been lost during these labor lay-offs can only be discovered by means of honest market research. Let's hope that said loss isn't too great.

At least one major sales executive we know is convinced that the enforced idleness of thousands of men during recent weeks will have an effect on the immediate sales picture.

"Nearly every distributor and dealer I have visited was of the opinion the shrinkage in savings suffered by these families would retard, for a considerable period, their purchase of many postwar items," he declares.

For too long these thousands of strikers have been frozen out of the market. Fewer buyers now stand in line to buy finished products.

In other words, it seems likely that a highly competitive market will be created much sooner than the experts predicted a few months ago.

It may be later than you think—for merchandising executives to start advertising, promoting, and selling again on a big scale.



# THE *Tireless Force OF SCIENTIFIC PROOF* **STANDS BEHIND YOUR INSTALLATIONS**

**"PRE-PROOF" OF  DEPENDABILITY  
COMES FROM  LABORATORIES**

● A-P Dependability is "Pre-Proved" every day in A-P Laboratories. It is work requiring endless experiments, tests, analyses and "production checks". . . . Keeping rigid checks on raw materials before fabrication, testing parts during assembly, proving A-P Valve operation, making permanent records of the efficiency of every valve.

This extraordinary thoroughness and attention to details by A-P engineers, chemists, metallurgists stems from the conviction that "Trifles make perfection—but perfection is no trifle". It's constant and unwavering assurance to you, who use A-P Valves, that every one of them will stand up to its reputation for complete DEPENDABILITY — pre-proved" long before you use them on your installations.

### AUTOMATIC PRODUCTS COMPANY

2450 North Thirty-Second Street • Milwaukee 10, Wis.  
Export Dept. 13 E. 40th St., New York 16, N. Y.



## DEPENDABLE *Refrigerant Valves*

Stocked and Sold by Good Refrigeration Jobbers Everywhere • Recommended and Installed by Leading Refrigeration Service Engineers

## OPA Establishes Ceiling on Westinghouse Automatic Washer

MANSFIELD, Ohio—A new retail ceiling price of \$208.95, including the charge for the five-year warranty, has been established for Model B-3-46 Laundromat automatic washing machine manufactured by the Westinghouse Electric Corp. here, according to Revised Order 35, MPR 86.

This newly established maximum retail price also includes delivery and installation to electric and plumbing facilities to be provided by the consumer so that the washing machine is ready for use, OPA said.

A home instruction course on Laundromat operation to be given in the consumer's home by a demonstrator provided by the retail seller

is included in OPA's definition of installation, according to the order.

For sales by distributors to dealers, the following ceiling prices, revised to include the charge for the five-year warranty, have been established:

Quantities	Ceiling Price (each)
1 or 2 units.....	\$123.98
3 to 5 units.....	121.13
6 or more units.....	118.23

Maximum prices to dealers are f.o.b. the seller's warehouse, but when shipment is made directly from the factory to the dealer pursuant to the distributor's order, the prices are f.o.b. the dealer's city, OPA specified.

The five-year warranty, included in all prices affected by this order, con-

sists of a one-year warranty that the Laundromat and all its parts are free from defects in material or workmanship under normal use and service, and a guarantee to the original purchaser to replace the automatic transmission free of charge at any time up to and including Dec. 31 of the fifth year after manufacture, if it becomes inoperative due to defects.

### "Women's Friend" Priced

FINDLAY, Ohio—Retail ceiling prices for sales of Central Rubber & Steel Corp.'s "Woman's Friend" wringer type washing machine with or without a pump are \$80.50 and \$70.50, respectively.

## Voss Brothers Mfg. Co. Receives OPA Ceiling Prices on 5 Wringer Washing Machine Models

DAVENPORT, Iowa—Retail ceiling prices on five models of wringer type washing machines manufactured by Voss Bros. Mfg. Co. here were set forth in OPA Rev. SO 119, Rev. Order 60, as follows:

Wringer-type washing machines	Dealers' ceiling prices to consumers		
Model No.:	Zone 1 Each	Zone 2 Each	Zone 3 Each
41-A .....	\$60.95	\$65.95	\$70.95
41B .....	71.15	76.15	81.15
41-C .....	81.35	86.35	91.35
41-CP .....	91.50	96.50	101.50
41-CG .....	107.20	112.20	117.20

By the same revised order, Voss Bros. Mfg. Co. was authorized to determine ceiling prices on each model of washing machine it produces in accordance with the provisions of Sections 3 and 5 of MPR 86, except that an increase of 12.4%

## 11 Frigidaire Electric Water Heaters Assigned Prices by OPA Order

DAYTON, Ohio—Retail maximum prices for 11 models of electric water heaters manufactured by Frigidaire Division of General Motors Corp. here have been established by OPA as follows:

Model No.:	Sales To Distributors	Sales To Dealers
S630-T—30 gallon electric water heater—single element .....	\$84.27	
S632—32 gallon electric water heater—single element .....	65.51	
D632—32 gallon electric water heater—double element .....	80.36	
S640—40 gallon electric water heater—single element .....	82.17	
D640—40 gallon electric water heater—double element .....	87.18	
S652—52 gallon electric water heater—single element .....	89.06	
D652—52 gallon electric water heater—double element .....	94.05	
S664—64 gallon electric water heater—single element .....	105.41	
D664—64 gallon electric water heater—double element .....	112.55	
S680—80 gallon electric water heater—single element .....	118.23	
D680—80 gallon electric water heater—double element .....	125.35	

On sales to distributors and dealers, the 11 models of water heaters will sell for not more than:

Model No.:	Sales To Distributors	Sales To Dealers
S630-T .....	\$46.27	\$55.18
S632 .....	33.84	42.96
D632 .....	41.40	52.60
S640 .....	42.75	53.92
D640 .....	45.78	57.15
S652 .....	46.63	58.51
D652 .....	49.66	61.73
S664 .....	55.34	69.32
D664 .....	58.92	74.00
S680 .....	61.74	77.81
D680 .....	65.30	82.46

The above prices are net delivered prices, excluding federal excise tax, and were established by OPA Order 370, MPR 591.

Maximum prices for sales of these electric water heaters on an installed basis are to be determined in accordance with the provisions of revised MPR 251, OPA added.

## OPA Prices 4 Estate Electric Ranges

HAMILTON, Ohio—Maximum prices have been established on four models of electric cooking ranges manufactured by the Estate Stove Co. here in OPA Order 271, MPR 64. The retail ceilings are:

Model	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
612	\$157.95	\$160.25	\$162.50	\$164.75	\$166.50
613	191.95	194.50	196.95	199.50	201.25
616	225.25	228.25	230.95	233.75	235.95
619	225.79	228.95	232.25	235.50	237.95

Included in these prices are the federal excise tax, delivery, a one year warranty, and installation where connection to electric facilities pro-

Model	Quantity
612 .....	1 to 4
612 .....	5 or more
613 .....	1 to 4
613 .....	5 or more
616 .....	1 to 4
616 .....	5 or more
619 .....	1 to 4
619 .....	5 or more

vided by the consumer is all that is required, OPA stated.

If a range cord set is necessary and is provided by the dealer, he may add \$3.50 to the above ceiling prices.

On sales to dealers, distributors may not exceed the following prices:

Model 600E .....	\$189.95 each
Model 800E .....	189.95 each
Model 700G .....	199.95 each

Included in these prices are delivery, a one year warranty, and installation when connection to electric facilities provided by the customer is all that is required, stated OPA.

If a range cord set is necessary and is provided by the dealer, he may add \$3.50 to the above ceiling prices.

On sales to dealers, distributors may not exceed the following prices:

Model 600E .....	\$113.98 each
Model 800E .....	113.98 each
Model 700G .....	119.98 each

These prices are f.o.b. the seller's city, but when shipment is made directly from the factory to the dealer pursuant to the distributor's order, the above prices are f.o.b. the dealer's city, OPA specified.

## OPA Prices 4 Estate Electric Ranges

HAMILTON, Ohio—Maximum prices have been established on four models of electric cooking ranges manufactured by the Estate Stove Co. here in OPA Order 271, MPR 64. The retail ceilings are:

Model	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
612	\$101.54	\$102.98	\$104.38	\$105.79	\$106.88
613	97.78	99.18	100.51	101.86	102.91
616	123.40	124.99	126.52	128.12	129.21
619	118.83	120.36	121.83	123.36	124.41

Model	Quantity
612 .....	1 to 4
612 .....	5 or more
613 .....	1 to 4
613 .....	5 or more
616 .....	1 to 4
616 .....	5 or more
619 .....	1 to 4
619 .....	5 or more

Included in these prices are the federal excise tax, delivery, a one year warranty, and installation where connection to electric facilities pro-

Model	Quantity
612 .....	1 to 4
612 .....	5 or more
613 .....	1 to 4
613 .....	5 or more
616 .....	1 to 4
616 .....	5 or more
619 .....	1 to 4
619 .....	5 or more

For sales in each zone by wholesale distributors to retail dealers, the maximum prices set forth are:

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5





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# What's New



## Parsons Designs Small Packaged Kitchen Unit

DETROIT—The Parsons Co. here, now back in production on its packaged Pureaire Kitchen, announces that by mid-year it will be mass-producing the new one-piece Flat-Top 72 Kitchen comprised of a 6-cu. ft. electric refrigerator, and a full-size range, oven, and broiler.

Designed for small, low-cost homes, the Flat-Top 72 also includes a stainless steel sink bowl inserted in a one-piece stainless steel top. Storage and drawer facilities are available within a baked enamel finished cabinet.

Parsons' Pureaire Kitchen is described as "a compact steel assembly of all units needed for cooking of food, refrigeration, and ample storage space." When installed without recessing, the unit is said to use less than 8 sq. ft. of floor space.

The Kitchens, all measuring 46 by 8½ by 22½ in., are produced in three models: No. 700, with gas range and electric refrigerator; No. 1060, an all-electric unit; and No. 1200, an

all-gas type. By the addition of one or more steel side units, models can be provided at widths of 46, 60, 74, and 84 in.

Of 4.25-cu. ft. capacity, the refrigerator is powered by a ½-hp. hermetically sealed condensing unit.

Included in the electric range are two 6-in., 1,200-watt and one 8-in., 2,000-watt closed top ring elements with 5-speed speeds and a 16-in. oven having two 1,500-watt elements. The gas range has four burners and the same size oven.

Other features listed for the Pureaire are: patented ventilation system, monel metal sink, 20 sq. ft. of cupboard and shelf space (14 cu. ft. added by each side unit), two utility drawers, cutting board, and light and convenience outlet.

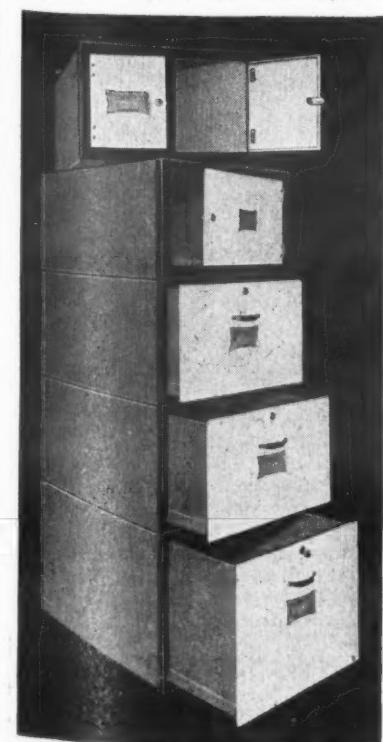
Constructed of heavy furniture steel welded to a cold rolled steel channel frame with arc-welded flush joints, the Pureaire can be installed in 25 minutes, it is claimed.

The unit has been used since 1929, the firm says, for apartments, small homes, tourist courts, hotels, schools, institutions, and offices.

Parsons' factories in Traverse City (Mich.) had been used for war production.

## Why Do MASTER Lockers Predominate?

It wasn't an accident that made MASTER the top locker among Locker Operators—it was the "know how." That is why over 4,000 of the 7,000



## MASTER MANUFACTURING CORP.

121 Main St.

Sioux City 4, Iowa

Member of Frozen Food Locker Manufacturers and Suppliers Ass'n organized for your protection.

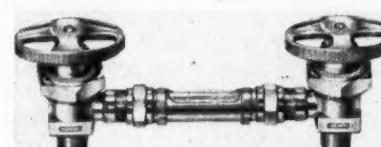
Over 800,000 Master Food Conservators in Use

An answer to present-day crowded housing facilities is offered in the packaged kitchen assembly at left which the Parsons Co. plans to mass-produce by mid-year. Known as the Flat Top 72 Kitchen, the unit is comprised of a 6-cu. ft. electric refrigerator, full-size range, oven, and broiler. Altogether it is claimed to use less than 8 sq. ft. of floor space.

## Gauge Glass Set Features Henry Packless Valves

CHICAGO—Henry Valve Co. has introduced a new gauge glass set featuring Henry diaphragm packless valves.

The new set is recommended for installation on accumulators, liquid receivers, oil reservoirs, etc., and is particularly useful for installations in which there is surging or splashing within the vessel.



The packless valve construction eliminates valve stem packing, says the manufacturer. If the glass tubing should be accidentally broken while the valves are open, a safety ball check in each valve operates to keep the liquid from escaping and to maintain pressure in the vessel. Additional safety is afforded by a sturdy slotted metal guard which protects the tubing while providing a clear view of the liquid column.

Construction details include forged brass valve bodies and fittings, ½ in. M.P.T. screw ends. Tubing is rated at 500 psi (cold) for lengths

up to 10 in.; 420 psi, 11-20 in.; 340 psi, 21-24 in. Horizontal valve outlets are 15 in. center-to-center, standard. Standard tubing length is 12 in.; exposed length, 10 in. Other lengths may be had on special order.

## Ethyl Develops Porcelain, Enamel Surface Cleaner

NEW YORK CITY—Recommended for the cleaning of enamel or porcelain surfaces, such as refrigerators and ranges, "Ethyl Cleaner," a new synthetic detergent derived from petroleum, cleans easily in hot or cold water with little or no scrubbing required, according to claims made by the Ethyl Corp. here.

The non-inflammable cleaner, said to contain no abrasives or caustics, is equally effective in soft or hard water, and is even usable in salt water, it is reported.

Being marketed in concentrated liquid form, the cleaner comes in four bottle sizes ranging in price from 35 cents to \$1.20. Before using, the cleaner should be diluted with water. One teaspoonful of cleaner per quart of water is recommended for most household tasks.

Manufactured by Ethyl Corp. here, the new cleaner is being distributed by Ethyl Specialties Corp., a subsidiary.

## Expect 1,000 To Attend Regional Locker Meeting

OKLAHOMA CITY, Okla.—Between 1,000 and 1,500 delegates and invited guests are expected to attend the regional exhibit and convention of the National Food Locker Association and the Frozen Food Locker Manufacturers and Suppliers Association here April 29-30, L. R. Uhrig, Carrollton, Mo., convention chairman, has announced.

Prominent leaders in the industry who will attend include J. W. White, president of the manufacturers and supplier group; R. R. Farquhar, executive director; and C. G. Holmes, president of the food locker association, and many others.

Problems of the industry, mostly those of shortage in refrigeration equipment and other materials vital to the business, will be discussed.

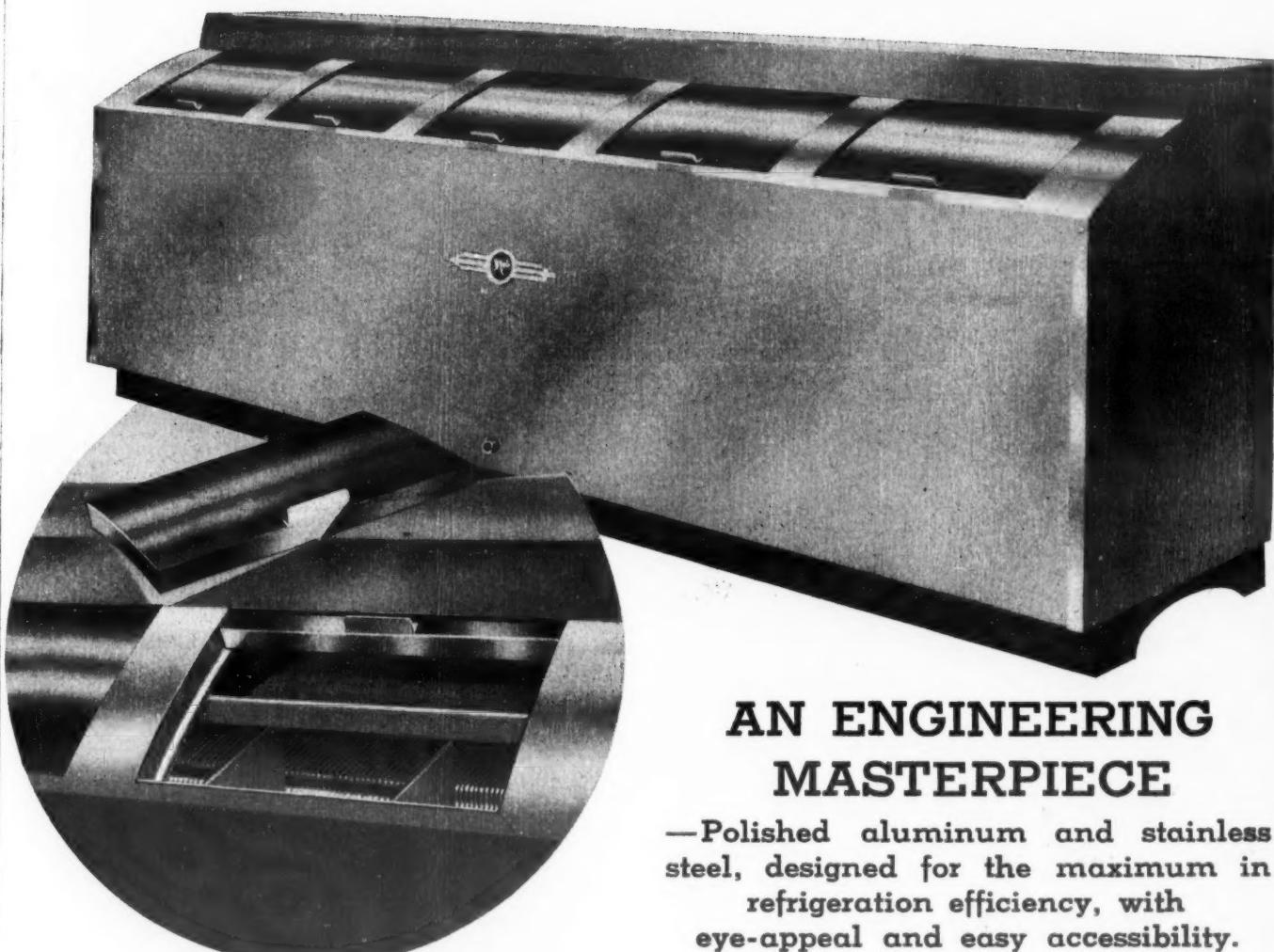
The regional session will include delegates from Arkansas, Colorado, Kansas, Louisiana, Mississippi, Missouri, New Mexico, Arizona, Oklahoma, Tennessee, and Texas.

## New Shreveport Dealer

SHREVEPORT, La.—Clifford and Ed Neilson have opened a new electrical appliance store at 1307 Marshall St., known as Neilson Brothers Sales Co.

## Attention Dealers

### The Ultimate In Beverage Coolers



## AN ENGINEERING MASTERPIECE

—Polished aluminum and stainless steel, designed for the maximum in refrigeration efficiency, with eye-appeal and easy accessibility.

### READY FOR IMMEDIATE SHIPMENT

The NOLIN Beverage Cooler is built in three convenient sizes to fit your particular need—six, eight and ten foot lengths

**Heavy Duty Coils:** Copper tubes with aluminum fins 1¼" tube centers insuring prime surface exposure. Two large coils are used, one in front and one in back of box. The back coil is formed in a 90 degree angle providing direct contact with the freezer shelf, assuring adequate cooling for frosted glasses, candy bars, etc.

**Adjustable Partitions:** Allowing maximum space in cooler to be used. Can be spaced every two inches the entire length of the box.

**Fully Insulated:** The very highest quality insulation used throughout box, and as added protection the box is thoroughly vaporproofed with the best grade Sisal Craft waterproof paper.

Call—Wire or Write for Prices and Specifications

## The NOLIN Manufacturing Company

PHONE 6050

Manufacturers of Commercial Refrigeration

PHONE 6050

1100 Madison Avenue

P. O. Box 1043

Montgomery 2, Alabama

# Air Diffusers Help Overcome Problem Of Providing 'Draftless' Air for Buses

By George R. Wallen, Anemostat Corp. of America

Air conditioning systems in today's buses and trains differ greatly from those in buildings. Space limitations, widely varying heating and cooling loads, and problems of power supply are some of the reasons for the difference.

As a result, special fans, coils, pumps, etc., had to be developed for mobile use. However, the most important special problem that had to be solved in the design of air conditioning systems for buses and trains was that of securing uniform, draft-free air circulation.

Today there are estimated to be 166,044 buses on the road, of which only about 1,500 are completely air conditioned. However, the majority of 1946 buses either incorporate air conditioning, or are designed to accommodate its subsequent installation.

In addition, a large number of existing buses were designed to allow the installation of air conditioning when desired, and it is expected that competition will force operators of such buses to do so.

In the past, with the exception of several experimental installations in local buses, only intercity buses have been completely air conditioned. Experiments are now being made in a number of cities to develop air cooling systems for local buses.

For local buses, the problem of climate control inside the vehicle is much more complicated than for

inter-city buses. In closely built-up areas, a local bus frequently stands still with its doors open for a great deal of the time it is in service. This affords ample opportunity in summer for the cool air to escape from the inside of an air conditioned vehicle and for hot, outdoor air to enter.

In addition, a great many local buses are used only in rush hour service. Between times they stand in the yard and get thoroughly heated by the rays of the sun. This means that in many cases the air conditioning system must be started an hour, or even two hours, before the time the bus goes out on the road.

#### EQUIPMENT MUST RUN LONGER

It is by no means unlikely that the cooling equipment will have to be in operation for a period of three hours—while the bus will operate only for an hour or so.

Finally, a local bus usually carries a considerable number of standees in rush hours. This means more people contributing body heat and raising the temperature inside the vehicle.

Because of these factors, heavier and more expensive equipment will be needed for air conditioning local buses than is needed for inter-city buses. It is likely that an auxiliary engine would be needed to provide more electric power than is now available on the average bus.

On a mileage basis, it is estimated that in local operation the cost of air conditioning would be about double that for inter-city operation.

Air conditioning engineers specializing in the bus field are divided into two schools of thought concerning the most effective means of air conditioning local buses.

One group believes that competition is going to force bus operators to go to regular air conditioning systems despite the increase in first cost, cost of operation, and space limitations. These proponents predict that the private automobile of the future will be air conditioned and that the local bus also must be air conditioned to maintain its position in competition with the private car.

The second school of thought believes that satisfactory results can be obtained by means of "evaporative cooling." This method would require no pre-cooling of the air before its introduction into the bus interior, but the volume of fresh air introduced would be so great as to cause rapid evaporation of moisture from the bodies of passengers—with consequent cooling effect.

Considerable study has also been given to the possibilities of air cooling street cars by this means. It is estimated that in the standard type of modern street car, evaporation cooling would require the introduction of 12,000 cu. ft. of fresh air per minute. This would be equivalent to

## Bus Interior Cooled by Anemostats



Note the line of air diffusers jutting from the ceiling of one of Fort Worth's inter-city buses, operated by the Bowen Motor Coach Co. These devices, manufactured by the Anemostat Corp. of America, are designed to distribute cool air evenly throughout the interior.

four complete changes of air per minute.

It is many times the amount necessary to eliminate odors under the most adverse conditions. The total cost, however, on a vehicle-mile basis, is only about one quarter of a complete air conditioning system.

To solve the problem of air distribution in buses, many leading builders and operators of buses have applied in modified form the basic principles of air diffusion—principles that already proved highly successful in the comfort conditioning of buildings, railroads, and other modes of transportation.

Research in air distribution has led to the conclusion that the one thing required to eliminate drafts from an air circulating system is an air diffuser, attached to the duct outlet, which will pre-mix incoming air with secondary air well above the breathing level of the occupants.

#### ADAPTED FOR BUSES

The device known as the Anemostat air diffuser meets all these requirements. However, considerable experimenting and engineering study was necessary before buses could be successfully equipped with Anemostats.

The pioneer work in this application was accomplished before the war, and these devices are now in use on inter-city buses operated by the Bowen Motor Coach Co., Burlington Transportation Co., Santa Fe Trails Transportation Co., and others. Coach manufacturers who have used these devices in their buses include Beck, Fitzjohn, and Superior.

A "look inside" the Anemostat will make clear the way in which this device functions in bus air conditioning.

The device is placed at each outlet from the duct through which incoming air enters the bus. It consists

of a series of conical metal louvers, or sections of cones, the surfaces of which are angled to direct air along definite and pre-determined flow lines. The tops of the sections are at different heights, so that air flows outward in the spaces between some of the conical surfaces while bus air is siphoned into the same louver openings.

Thus a series of counter-currents of bus air are drawn back into the cones. These multiple counter-currents carry bus air equal to about 35% of the incoming air into the diffuser, where it is mixed with the incoming airstream before it is discharged from the diffuser.

#### EXPANSION CUTS VELOCITY

Another action also takes place within the cones. When air of any duct velocity passes through the Anemostat, expansion of the incoming air within the flaring metal cones instantly reduces its velocity. This air expansion converts the velocity energy of the air into a pressure blanket on the bus air beneath the diffuser.

By these processes, incoming air passing through the device is pre-mixed with the siphoned air and distributed in the form of a pressure blanket on the bus air below. The series of cones forming the Anemostat then discharge definite proportions of air into the bus in all directions in a continuous blanket. This low velocity air diffusion, together with the air-mixing action, serves to eliminate drafts, and the temperature is equalized at all levels throughout the bus.

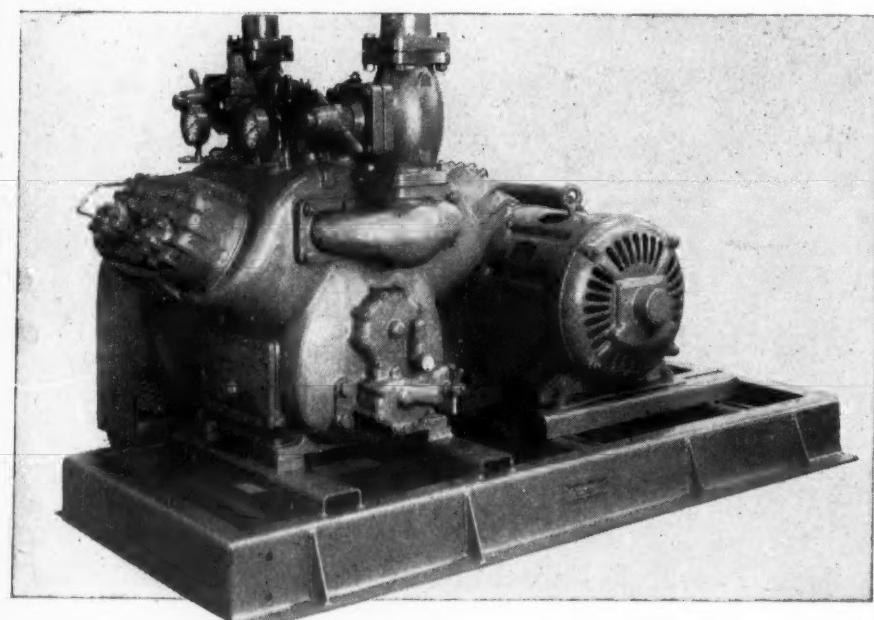
#### TEMPERATURE CONTROLLED

As pointed out earlier, the air mixing action of this air diffuser causes the desired bus temperature to be established at a point well above the occupancy level of the

(Concluded on next page)

## WORTHINGTON Air Conditioning and Refrigeration Review

Edited by Worthington Pump & Machinery Corporation, Harrison, N.J. • Vol. I, No. 1



### Famous N.Y. Store Gets Worthington Air Conditioning

Lane Bryant, the famous women's apparel retail establishment, in its modern store on Fifth Avenue in New York City, will offer its patrons the benefits of a Worthington air conditioning installation. The Arthur E. Magher Co. is the contractor and Mr. Edward Ashley, the Consulting Engineer.



### Worthington Ad Rated "Best-Seen" and "Best-Read"

According to impartial Starch reports, the Worthington Air Conditioning and Refrigeration advertisement reproduced above was rated first among all air conditioning advertisements in TIME Magazine and third best-seen and best-read of all twenty-two advertisements tested in that issue. This, and other Worthington Air Conditioning and Refrigeration advertisements are read by leading businessmen throughout the country.

### Investigate Worthington for "Integrated" Systems

Because Worthington makes so many of the "inner vitals" of an air conditioning or refrigeration system—compressors, condensers, pumps, turbines, valves, fittings, etc.—it is your best source of the efficient, economical "Integrated" system you want. Consult your nearby Worthington Distributor for further details.

### NEW LINE OF COMPRESSORS FOR LOW PRESSURE REFRIGERANTS LOWERS AIR CONDITIONING COSTS

Answering the demand for improved equipment in the air conditioning industry, these new Worthington Compressors—ranging in size from 2 to 125 HP—combine features long sought by architects, consulting engineers and building operators.

Simplified construction reduces weight and dimensions without sacrifice of typical Worthington durability. Patented Feather\* Valves... simplest, lightest, most reliable ever designed for compressor use... eliminate shock wear, noise. Accessibility of moving parts, removable bearing.

\*Reg. U.S. Pat. Off.

ings... and cylinder liners, and forced-feed lubrication in larger sizes... lengthen life and make maintenance easy. Positive partial-capacity control helps keep operating costs low.

Incorporated in Worthington condensing units, these compressors team up with Worthington Multi-V-Drives, special motors and high and low pressure safety controls for low-cost installation and operation. Worthington Pump and Machinery Corporation, Harrison, N.J. Specialists in air conditioning and refrigeration machinery for more than 50 years.

### Air Conditioning and Refrigeration

## Ceiling Outlets in Railway Club Car



Ceiling outlets spaced between fluorescent light fixtures provide draftless air distribution throughout the club cars of the Seaboard Airline Railway's streamline train, "The Silver Meteor."

### A FAITHFUL GUARD FOR THE NATION'S FOOD SUPPLY



Humi-Temp Forced Convection Units—Patented CROSS-FIN COILS—Bare Tube Coils—Kink Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—

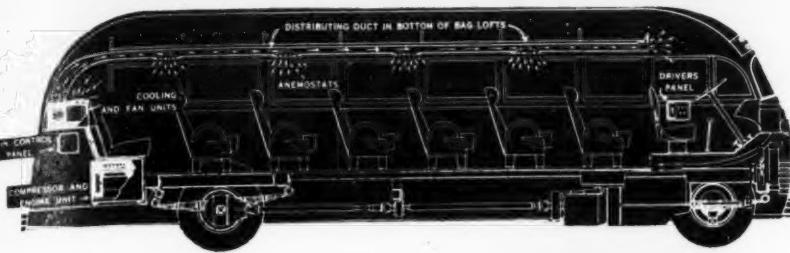
### LARKIN COILS,

519 Memorial Drive, S.E., Atlanta, Ga.

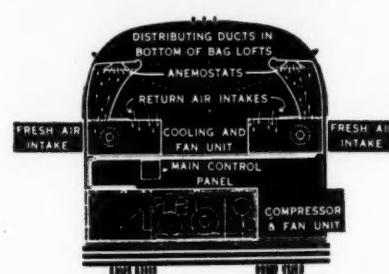


AS-12

## How Air System Operates in Buses



This diagrammatic view of the air distribution system for the Fitzjohn "Falcon" bus shows from the back and side how the air diffusers operate to mix incoming air, reduce its velocity, and then push it out through ceiling Anemostats as a pressure blanket rather than a solid draft of air.



## Railway Car Air Systems Show Marked Improvement Since 1933, Says G. R. Wallen

(Concluded from preceding page)

passengers. This naturally permits the comfortable use of colder—or warmer—incoming air than would otherwise be possible with the use of grilles, slots, or perforated panels. These higher temperature differentials permit introduction of smaller volumes of cooled or heated air.

In addition, the high velocities, which may be employed because of the draftless diffusion, result in further reductions in duct sizes and simplification of duct layouts.

While railroads have been air conditioning their equipment since 1933, fewer than 30% of the passenger cars had been so conditioned before the war. Soon the air conditioning of passenger trains will be practically nationwide.

Passenger trains now under construction are being equipped with greatly improved air distributing systems. In earlier days, however, drafts, stratified air, and stale air pockets often made even the best railroad air conditioning systems more of a nuisance than a comfort.

This was because many of the pre-war air outlets allowed strong, undiffused blasts of incoming air to blow directly on the passengers. These blasts of air struck some passengers with unpleasant violence, and missed others completely. Those out of the line of fire were left sitting in stale air pockets—mopping up perspiration.

Since the cold incoming air mixed only partially with the warmer car air under such circumstances, cold

air fell to the lower levels around the passengers feet, and warmer air tended to stratify at the head and shoulder levels.

One prewar method of preventing drafts in passenger trains was to introduce conditioned air through perforated ceilings. This type of outlet is usually made of metal or composition board and has found applications in aircraft and other installations having a high heat or ventilation load.

However, during wartime such outlets presented difficult maintenance problems to railroad personnel. It was found that dust and dirt in the duct lines clogged up the perforated ceilings, thereby decreasing the amount of air distributed.

Also the perforated ceilings appeared to change color. The slightest amount of dust and dirt accumulating in the holes made the ceiling appear darker. Various railroads tried to repaint without having the paint removed, and the repainting clogged up so many more of the holes that the complete air distribution system was more or less ruined.

Studies on the distribution of air in passenger cars started long before the war, and as a result of these studies Anemostat air diffusers are now being installed in air conditioned cars of such leading car manufacturers as Pullman Standard, Edward G. Budd, and American Car & Foundry. These diffusers are now being used in air conditioned passenger cars of over twenty large railroads, including such roads as the New York Central, the Pennsylvania, and the Santa Fe.

**ANOTHER SANITARY "First"**  
**A PACKAGE SALE IDEA YOU CAN**  
**REALLY PROMOTE . . .**



ICE-CONDITIONED  
REFRIGERATOR IN KITCHEN

Convenient, practical and economical "Packaged Refrigeration" service for the average American home results from installing a Sanitary Ice Refrigerator and a Sanitary "Quicfrez" Low Temperature Cabinet. The improved Model 2126 Sanitary Ice Refrigerator is recommended for current sales promotion in place of the illustrated unit not at present available. 5 cu. ft. Food Capacity and 75 lb. Ice Capacity. Thoroughly rockwool insulated, interior and exterior of steel white enameled. Performance-tested at factory. No. 2126 is the only Sanitary model available in 1946.

SUPPLEMENTED BY  
BELOW-ZERO QUICFREZ

### The Model 1245 QUICFREZ Locker

With Separate Freezing Compartment—12.5 Cu. Ft. Food Storing Capacity. 500 to 600 lb. Frozen Meat Capacity. Initial Freezing Compartment—3 Cu. Ft.

Built by one of the pioneer producers of Low Temperature Cabinets, the Quicfrez has been thoroughly proven in performance by more than six years' continuous service.

### SANITARY REFRIGERATOR CO.

FOND DU LAC, WISCONSIN

Manufacturers of Ice Refrigerators for More Than 40 Years Quicfrez Farm Locker Plants Since 1939

## Appliance Firm Opened By Allen in California

WOODLAND, Calif.—General Refrigeration & Air Conditioning is the firm name under which Elmer W. Allen has announced that he will conduct a store and service shop at 415 1st St. here. The General Electric line of appliances will be sold by Mr. Allen.

## Air-Conditioned Cars Planned By Australian Railway Co.

CANBERRA, Australia—An unspecified number of air conditioned cars will be added to stock of the Victorian Railways under a \$48,450,000 postwar development program.

## American Chain Ladder Co. Freezer Gets Ceiling

NEW YORK CITY—Maximum retail price for the freezing unit, complete with a  $\frac{1}{4}$ -hp. condensing unit, manufactured by the American Chain Ladder Co., Inc., here was set at \$430 by OPA Order 385, MPR 591. Ceilings established on sales to distributors and dealers were \$215 and \$258, respectively.

On sales by a distributor or dealer, the addition of freight costs not to exceed lowest common carrier rates and crating charges not in excess of \$6 are permitted. In other respects, sales of this unit are subject to the usual terms, discounts, and allowances, OPA said.

## Air Conditioning Units and Servicing In Demand During St. Louis Heat Wave

ST. LOUIS—An urgent call for all air conditioning service men and engineers here went out from department stores, theaters, auditoriums, and other large buildings as a result of the record heat wave which struck here March 30 to April 5.

Temperatures of 91 to 95 were recorded each afternoon during this period, which made it necessary for perspiring merchants to turn on the air conditioning systems from six to eight weeks ahead of normal.

St. Louis' two largest theaters went through one sweltering day; then called on half a dozen refrigeration service firms to check compressors, etc., and get the equipment functioning. A downtown furniture store replaced an antiquated compressor with a new overpowered

model and offered cool comfort to its customers within a few hours. The three large St. Louis department stores resorted to fans for a day or so, then began hurriedly getting their major cooling systems in order.

The heat wave also called up a record number of requests and advance orders for package air conditioners, according to St. Louis wholesalers, who were kept busy assigning priority numbers and overhauling used equipment.

## Myers Appointed Trane Sales Representative

LA CROSSE, Wis.—Joe E. Myers has been appointed sales representative for the Trane Co., manufacturer of air conditioning, cooling, and heating equipment, in the Philadelphia district. He will work under the direction of George C. Breitenbach, Trane sales manager there.

## Kennedy Radio & Electrical Appliance Co. Starts in L.A.

LOS ANGELES—Kennedy Radio & Electrical Appliance Co. is the firm name under which Prince Kennedy has published a certificate that he is conducting business at 4150 South Avalon Blvd., Los Angeles.

## Allen-Bradley Moves Boston Branch Offices

MILWAUKEE—To combine warehouse and office facilities, the Boston branch office of the Allen-Bradley Co., manufacturer of electric controlling apparatus here, has been moved to larger quarters at 55 Oliver St., according to an announcement from the home office.

M. H. Hallenbeck remains district manager assisted by Charles M. McCombe.

## Reasons why EVAPORATIVE COOLING MEANS

**MORE PROFITS  
FOR YOU!**

**usAIRco's** Evaporative Kooler-aire is a packaged cooling system . . . a complete air-cooling plant engineered into a single, attractive cabinet. It's easy and simple to install; instantly ready to provide summer cooling and ventilation for your customers.

Evaporative Kooler-aire is not a refrigeration system . . . but next to refrigeration, it best meets the air-cooling requirements of a large number of establishments! Low in cost, economical to operate, Evaporative Kooler-aire delivers cooled, healthfully-vitalized air at a cost most businesses can afford.

The patented Gyro-Spray method of water application to the large, dual filter mats is exclusive with Evaporative Kooler-aire. The result is completely saturated filter mats at all times, assuring greater cooling efficiency. The Gyro-Spray action completely washes all dirt from the mats into water tank below, providing maximum filtering for cool, clean fresh air. A large, silent-operating centrifugal blower supplies the proper air motion, distribution of which is controlled through usAIRco's Deflecto-Grille.

Alert refrigeration dealers will find usAIRco's Evaporative Kooler-aire offers a splendid opportunity . . . with usAIRco's Refrigerated Kooler-aire unit which has already won wide acceptance in the refrigeration industry . . . to completely handle every type of air cooling job. Write today for complete details of usAIRco's Evaporative Kooler-aire Sales Plan!

1 Kooler-aire is a low-cost cooling system, increasing the number of prospects for you. More prospects mean more profits for you!

2 Kooler-aire installations number in the thousands, in every type of business. These successful cooling jobs make Kooler-aire easier to sell!

3 Kooler-aire is simply and quickly installed; your customers like the lower costs to get the unit in operation. You sell more systems through satisfied customers!

## United States Air Conditioning Corporation

MINNEAPOLIS 14, MINNESOTA



MAKERS OF AIR CONDITIONING, UNIT HEATERS, COILS AND VENTILATING EQUIPMENT

*Both necessary to  
REFRIGERATION MAINTENANCE*

**THAWZONE**  
PATENTED  
The PIONEER FLUID DEHYDRANT

**TRACE**  
REFRIGERANT LEAK DETECTOR

A HIGHLY EFFECTIVE REFRIGERANT LEAK DETECTOR. ITS STABLE VIVID RED COLOR REVEALS LEAKS INSTANTLY IN OLD OR NEW SYSTEMS.

HIGHSIDE CHEMICALS CO.  
195 VERONA AVE. NEWARK 4, N. J.

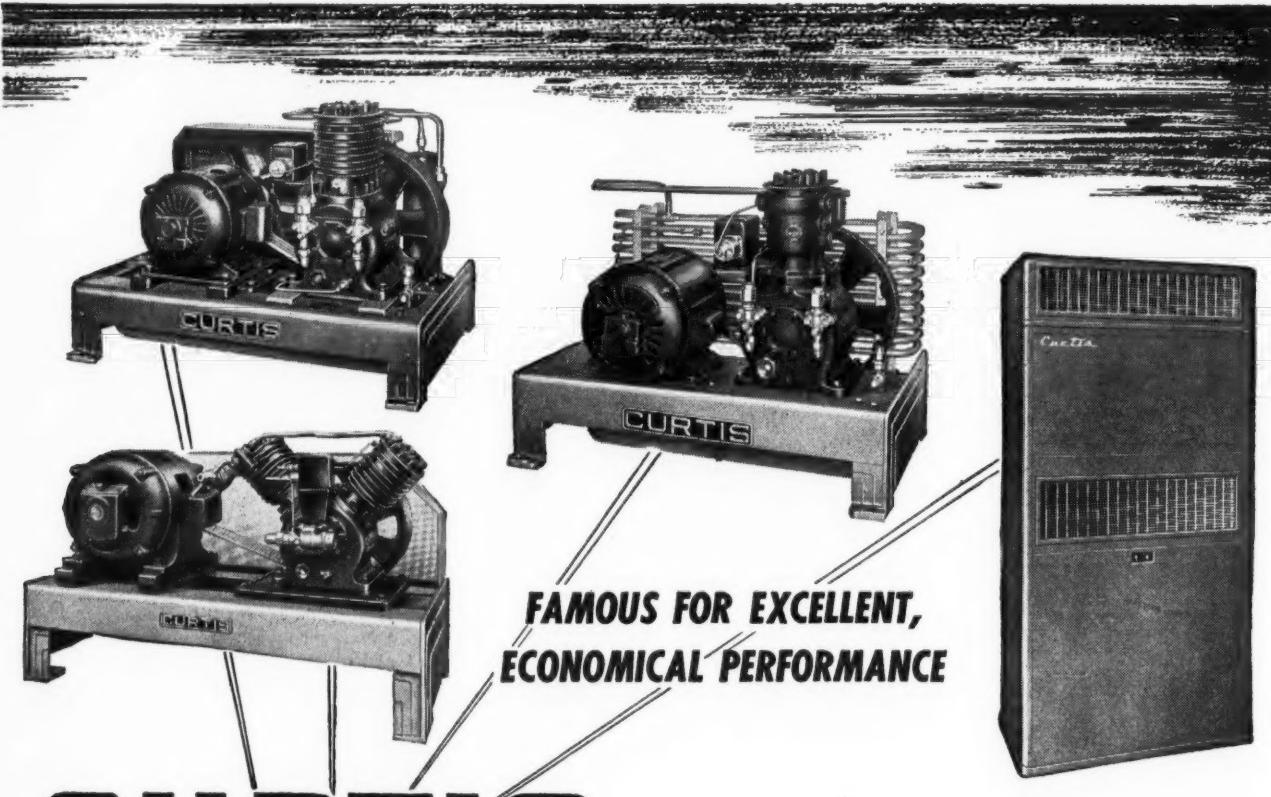


### The Watchman That Never Fails— A RANCO CONTROL

A Ranco Control is "on alert" sixty seconds to the minute, every hour, day and night — alert to safeguard perishables against temperature deficiencies.

Consult Your Ranco Jobber Today

**Ranco Inc.**  
COLUMBUS 1, OHIO



FAMOUS FOR EXCELLENT,  
ECONOMICAL PERFORMANCE

## CURTIS CONDENSING UNITS AND AIR-CONDITIONING EQUIPMENT

Curtis Condensing Units for all refrigeration applications are available in a wide range of types and sizes from  $\frac{1}{4}$  to 30 H.P., air and water cooled.

Curtis Packaged Air-Conditioning units include 3, 5,  $7\frac{1}{2}$ , 10, and 15-ton sizes — each of which cools, dehumidifies, filters, and circulates the cooling air. If required, heating can be included in all units.

Every piece of Curtis equipment is backed by 92 years of successful manufacturing experience. Aided by advanced engineering that includes the famous Curtis "Centro-Ring" positive pressure oiling system, Curtis units have a traditional reputation for exceptionally long life, economical operation, and trouble-free service under the heaviest demands.

Write to Curtis for full information on *all* the advantages of Curtis equipment for almost any refrigeration or air-conditioning need.



**Curtis Refrigerating Machine Division**  
of Curtis Manufacturing Company  
1912 Kienlen Avenue St. Louis 20, Mo.

R-479

### New Syracuse Firm Buys Waters Equipment Co.

SYRACUSE, N. Y.—The Excelsior Equipment Co., 308 S. Clinton St., has been incorporated for the sale and servicing of commercial refrigeration equipment.

The new company was formed by taking over the assets and business of the Waters Equipment Co. Officers of the new corporation are: William J. LaPloof, president; Martin J. Rose, vice president and treasurer; and Raymond J. Wall, secretary.

### Electro-Frost Co. Formed

BUFFALO—A business name has been filed for the Electro-Frost Co., 437 Broadway, by S. Douglas Strelbel.

## Servicing Commercial Refrigeration Systems

**Editor's Note:** This is the fifth instalment of a series of articles on the servicing of commercial refrigeration equipment, which illustrates seven simple steps to be followed by a repairman in determining whether the complaint is the result of one of four common ailments that cause 95% of all service calls. This material is from a slide training film developed by Frigidaire Division, General Motors Corp.

### Instalment No. 5

#### 13—Here Is How the Seven Simple Steps Will Enable a Refrigerator Service Man to Diagnose The Four Common Ailments Which Either Directly Or Indirectly Cause 95% of All Commercial Service Troubles. First Let's Consider—

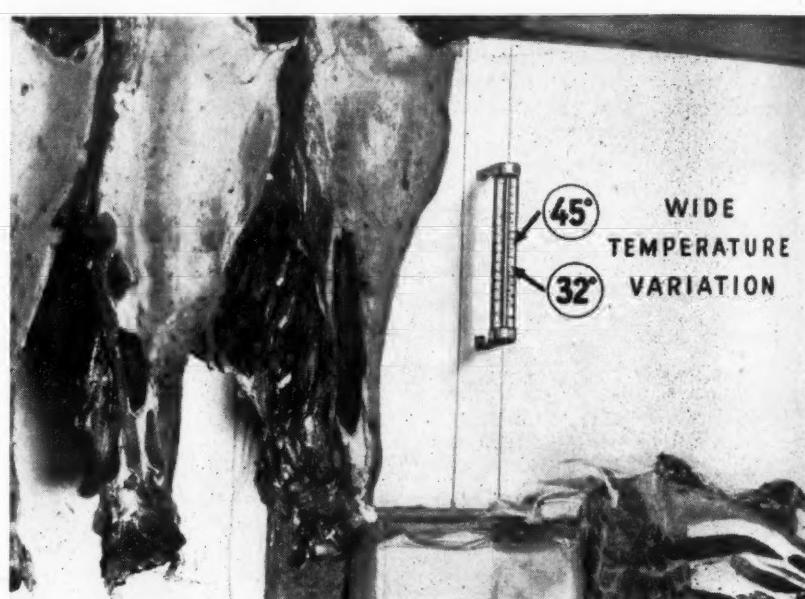
Suction Pressure Too Low (Step 1) can cause:

- A. Improper temperature or humidity in the fixture.
- B. Excessive operating cost.
- C. Improper oil circulation causing improper wear of condensing unit parts.
- D. Improper frosting and defrosting of evaporator.

The user complaint might be that the cooler temperature fluctuates and meats dry out or that power bills have been too high.

The condensing unit might be getting noisy, or only half of the coil might be frosting up. Here is why each of these conditions is caused by low suction pressure.

#### 14—(A) Improper Temperature and Humidity in the Fixture



With low suction pressure, temperatures tend to fluctuate over too wide a range between the start and stop of the running cycle. This causes a wide variation in the temperature of the meat, usually resulting in discoloration.

There is also a tendency for the evaporator to be too cold at the cut out point, causing excessive frosting which dries both the air and the stored products.

#### 15—(B) Excessive Operating Cost

EFFECT OF LOW SUCTION PRESSURES  
(FW5G Compressor at 103 Lbs. Head Pressure)

Lbs. Suction Pressure	B.t.u. Per Hour	Running Time	Kw. Hrs. Per Day	Gal. Water Per Day	Total Monthly Operating Cost
15	16,700	18	30	2,091	\$36.25
10	15,000	20	33.3	2,320	41.42
6	12,500	24	40	2,784	49.80

Estimated from Engineering Manual:

Water at \$1.95 first 1,000 cu. ft.

— 1.20 per 1,000 cu. ft. for next 9,000 cu. ft.

— .90 per 1,000 cu. ft. all over 10,000 cu. ft.

Electricity at Average of .03 per kw. hr.

As suction pressures decrease, condensing unit capacities also decrease.

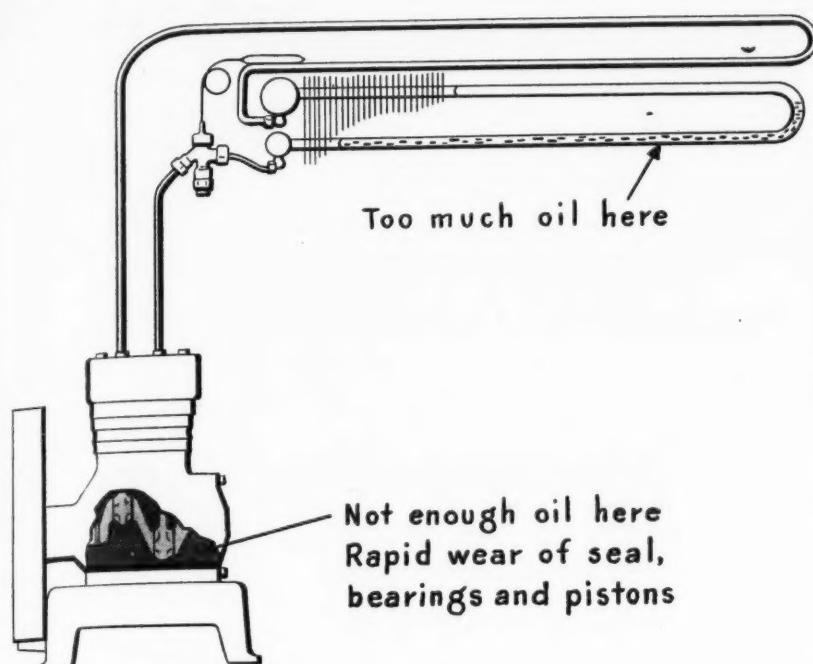
This means that with a given load, if the unit is handicapped by operating at too low a suction pressure, it will have to run longer and use more current to do the same amount of work.



### CHICAGO SHAFT SEALS

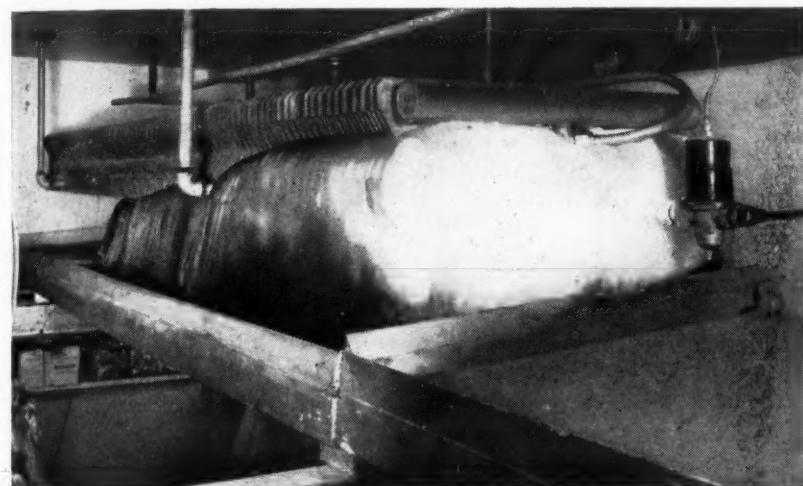
Acknowledged as the industry's most effective seal for replacement (even on scored or bent shafts) because it has the self-adjusting sleeve lock. Quickly installed. For REAL SATISFACTION never accept a substitute. At all jobbers.

**CHICAGO SEAL CO.**  
20 NORTH WACKER DRIVE, CHICAGO 6, ILL.

**Servicing Commercial Systems (Cont.)****16-(C) Improper Oil Circulation**

With low suction pressure there is usually *improper oil circulation*. Oil is carried through the system by the circulating refrigerant. With low suction pressure, there is not enough circulation to carry the oil out of the evaporator and back to the condensing unit, eventually causing condensing unit failure due to lack of oil at the seal, bearings, or pistons.

Adjustments must be made to get more refrigerant into the evaporator and provide a constant oil return.

**17-(D) Improper Defrosting of the Evaporator**

With low suction pressure, the condensing unit runs excessively and there is not enough idle time between cycles for the evaporator to defrost. As a result, the coldest part of the evaporator remains frosted, while the rest defrosts on the off cycle.

If we merely set the switch higher to provide more defrosting time, we will get improper fixture temperatures.

**18—How to Correct Suction Pressure's Being Too Low**

In a case of low suction pressure, one or all of the following conditions will be present:

1. Switch setting too low.
2. Shortage of refrigerant.
3. Temperature at evaporator outlet much warmer than at inlet.

As a result of the Seven Simple Steps, the service operator already knows whether the low pressure is being caused by low switch setting or a shortage of refrigerant.

However, do not be satisfied that these are the only things responsible for the trouble. Also check to see if the temperature at the coil outlet is much warmer than at the coil inlet.

**DEPENDABLE**

**Fast Delivery on**

**REFRIGERATION**

**PARTS & SUPPLIES**

**WRITE FOR CATALOG**

**THE HARRY ALTER CO.**

1728 S. Michigan Ave. Two Big Warehouses to Serve You 134 Lafayette St. New York, 13, N.Y.

# STA-TITE

THE REFRIGERATION FLARE NUT  
which cannot Creep or Work loose

Moisture will work its way along the threads, to fill the space between the fitting and the inside of the flare nut. Confined in this space, the water, in its attempt to freeze during the operating cycle, develops a tremendous pressure—16,400 p.s.i. at 20°F. Something has to give at such high pressures . . . (1) the nut may stretch, (2) the male fitting may collapse, (3) the copper tube flare may extrude . . . any one of which will allow the flare nut to loosen. You know the rest—moisture in the system and/or loss of refrigerant. A condition which has long baffled the refrigeration industry.

NOW—Superior engineers have found a positive cure—the new "STA-TITE" Flare Nut. By simply providing relief openings in otherwise standard flare nuts, the possibility of pressure being created is entirely eliminated . . . the flare nut stays tight!

Thousands of "STA-TITE" Flare Nuts already in service have yet to show a single failure. Moisture trouble, costly and annoying leaks, because of so-called "creeping" flare nuts, have been eliminated completely.

Get "STA-TITE" Flare Nuts from your jobber. Use them on all connections which are subject to frequent or occasional frosting and defrosting. Banish "creeping" and leaks forever!

"STA-TITE" is another Superior contribution to better refrigeration!

U.S. Patent 2,323,099

NO.134



**SUPERIOR VALVE & FITTINGS COMPANY**  
PITTSBURGH - 26 - PENNSYLVANIA  
OFFICES IN PRINCIPAL CITIES • STOCKS: CHICAGO (6) • LOS ANGELES (15) • JOBBERS EVERYWHERE

**Have You Ordered Your Copy of the 1946  
Refrigeration & Air Conditioning Directory? . . . Price \$1**

**"No More  
CONTACT MAINTENANCE...  
I'm standardizing on  
Allen-Bradley Starters"**

Size 2, Bulletin 709 solenoid starter with cover removed to show starter mechanism. The white interior reflects light and illuminates the starter in dark locations. Note the generous space for wiring and the easily accessible terminals.



Strange as it may seem to most maintenance men, the silver alloy contacts on Allen-Bradley solenoid starters never require maintenance of any sort. Any oxides that may form on these contacts are good electrical conductors. In addition, the extremely simple design of the solenoid starter mechanism practically eliminates the possibility of trouble. There is only one moving part—the solenoid plunger. There are no trouble-making pins, pivots, hinges, or bearings.

Allen-Bradley solenoid starters are the favorite in the refrigeration and air conditioning field, because they operate, day in and day out, without attention of any kind. Write for full information about these starting switches, Allen-Bradley Co., 1313 S. First Street, Milwaukee 4, Wis.

**ALLEN-BRADLEY**  
SOLENOID MOTOR CONTROLS  
QUALITY

## New Du Pont Foamed Plastic Is Claimed To Have Insulating Properties Suitable For Cabinets

ARLINGTON, N. J.—A new light-weight foamed plastic with insulating properties claimed to be more effective than standard insulating materials, has been developed here by the Plastics department of E. I. du Pont de Nemours & Co., Inc. Company officials predict wide use of the new plastic as insulation in household refrigerators as well as a core material for the bodies of refrigerated trucks.

Known as cellular cellulose acetate—CCA for short, the material will be displayed publicly for the first time from April 22 to 27 at the First National Plastics Exposition, Grand Central Palace, New York City.

CCA is lighter than cork, but when bonded between two sheets of metal, wood, or another plastic, it cannot be

compressed except under extreme pressure, Du Pont chemists claim.

The core of this foamed plastic likewise greatly increases the capacity of the other material to support a load, it was further stated. Uniform in density, CCA is not brittle and thus will not crack or break down under vibration.

In a process developed by Du Pont, the foamed plastic is produced by heating a mixture of cellulose acetate and other materials under pressure. Releasing the pressure foams the material into a mass of pin-point bubbles. The material subsequently becomes rigid when exposed to normal air temperatures.

The plastic may be tooled or shaped with any woodworking machinery.

Du Pont's Plastics department, at present producing CCA in experimental quantities, expects additional facilities to augment production by Aug. 1.

### Alers Heads Worthington Office In El Paso, Texas

EL PASO, Tex.—P. A. Alers has been appointed manager of the El Paso, Tex. office of Worthington Pump & Machinery Corp. Mr. Alers is a graduate of the School of Mining Engineering at the University of Wyoming, and has been connected with Worthington since 1933.

**Commercial  
REFRIGERATION**  
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## Refrigeration Problems And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

## Service Chart for System Using Automatic Expansion Valve With Temperature Control

(Continued from the April 8 issue)

### Symptoms

#### CONDENSING UNIT SHORT-CYCLES.

Evaporator cold, refrigerator temperature satisfactory.

Evaporator defrosted or defrosting. Suction line warm. Suction and discharge pressures normal.

Suction line warm. Suction pressure normal too high. Discharge pressure high.

### Possible Causes

Temperature control set with too close a differential between cut-in and cut-out temperatures.

Temperature control contacts fluttering.

Loose connection in electrical circuit.

Automatic-reset overload protector on motor short-cycling due to:

Stuck or tight compressor or motor.

Low voltage.

Belt too tight.

Motor worn or otherwise unable to carry the load.

High pressure cut-out short cycling. (Water-cooled condensing unit.)

Cut-out defective or set too low.

Water to condenser restricted.

Water pressure too low.

Supply water too warm.

Air in system.

Condenser fouled with dirt, scale, or other matter.

High-pressure cut-out short cycling. (Air-cooled condensing unit.)

Condenser stopped with dirt, lint, or other matter.

Fan too small or blades set too flat.

Condenser too near wall, boxes, or other objects causing recirculation of air through the condenser.

Air to condenser too warm; near stove or other source of heat.

Room in which unit is placed too small.

Automatic-reset overload protector on motor short-cycling because of:

Suction and/or discharge pressures too high, due to excessive heat load, poor air circulation around condensing unit or misapplication of the equipment.

### Remedy

Reset control with wider differential.

Replace contacts or if necessary replace entire control.

Find loose connection and make repair.

Repair or replace compressor or motor.

Find cause and obtain rated voltage to motor.

Adjust belt tension.

Repair or replace motor with one of proper type.

Repair or replace cut-out.

Remove restriction.

Increase pipe size.

Get cooler water or use evaporative condenser.

Purge condenser several times.

Clean condenser; treat with chemicals if necessary.

Clean condenser with brush or vacuum cleaner.

Replace fan.

Remove obstructions to obtain unrestricted flow of air through condenser.

Get cooler supply air.

Cut ventilation holes in wall or floor. Use duct if necessary.

Trace cause of excessive pressures and make necessary correction.

(This chart will be concluded in next week's issue)

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**INTELLIGENT REFRIGERATION** Engineer experienced in thermostatic expansion valve engineering and sales. Exceptional opportunity for alert and ambitious man to get a key position with manufacturer of only thermostatic expansion valve without a feeler bulb. All applications entirely confidential. TENNEY ENGINEERING, INC., 26 Avenue B, Newark 5, N. J., Bigelow 8-3305.

**REFRIGERATION MECHANIC** wanted. Must be A-1 for commercial and air conditioning. Only ex-servicemen preferred. P. O. Box 921, Pensacola, Fla.

**SERVICE MANAGER.** New Jersey's largest wholesale distributors of radio and major home appliances requires an experienced and aggressive service manager for their Norge appliance service division. State full particulars, including age, experience, and salary desired. Address Box 1948, Air Conditioning & Refrigeration News.

**AIR CONDITIONING** Engineer. Good educational background for teaching position. Steady work at leading and rapidly expanding school. Must have at least three years practical experience in refrigeration and air conditioning field. Send photo and qualifications in first letter. Box 1962, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

TWO, 5 x 5 Vilter Ammonia Compressors complete.  $7\frac{1}{2}$  hp., 3 phase. ALLIED REFRIGERATION ENGINEERING CO., 1655 East 55th St., Cleveland, Ohio.

**COIN METERS:** Have about 200 single door meters. International Register fool proof type—used \$7.50 each. Brunswick Balke type—new \$7.50 each. Brunswick Balke & International non-fool proof—used \$4.50 each. DESSER REFRIGERATOR CO., 1601 W. Mt. Royal Ave., Baltimore 17, Md.

**FOR SALE:** 10,000 new aluminum ice cube trays. Also air-cooled and water-cooled remanufactured condensing units  $\frac{1}{4}$  up to 2 hp. Write for particulars. EDISON COOLING CORP., 310 East 149th St., Bronx 51, N. Y.

RANCO, PENN new low pressure controls available. 1-hp. rating at \$3.75 each. GENERAL REFRIGERATORS CORP., 678 Broadway, New York 12, N. Y. Stuyvesant 9-1222.

**REFRIGERATING MACHINES**—New, less electric motor, following sizes:  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1, and  $1\frac{1}{2}$  hp. air cooled and a few water cooled. SMITH TRADING CO., 435-37 Druid Hill Ave., Baltimore, Md. Phone Lafayette 5515.

**FOR SALE:** Isobutane refrigerant. Price small lots—\$1 per pound; in lots of 100 pounds, 65 cents per pound. Freez-O, a perfect refrigerant for Frigidaire Meter Miser—price in small lots \$1.50 per pound; lots of 100 pounds \$1 per pound. Send your cylinders to STANDARD REFRIGERATION CO., McKees Rocks, Pa.

**MLK COOLERS**—New—complete with condensing units unusually well built—4 and 6 can available for immediate shipment—Dealership open in certain parts of country. Box 1962, Air Conditioning & Refrigeration News.

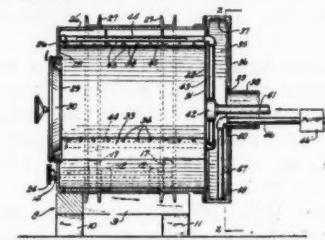
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## PATENTS

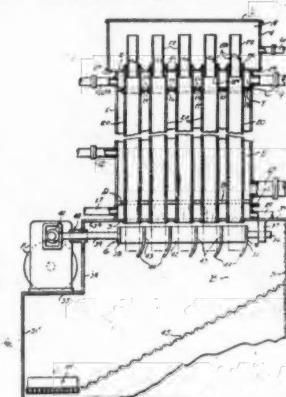
Week of March 26

**2,397,268. WASHING MACHINE.** John P. Jorgenson, Wilmette, and Alfred G. Kling, Chicago, Ill., assignors to Kling Bros. Engineering Works, Chicago, Ill., a corporation of Illinois. Application Jan. 6, 1944, Serial No. 517,170. 2 Claims. (Cl. 68—144.)



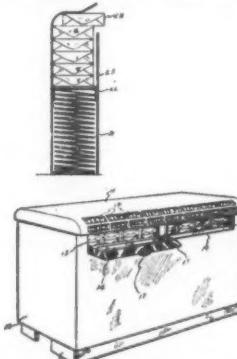
1. A washing machine comprising a drum having a wall at one end provided with a garment-loading opening, spaced parallel walls at the opposite end of the drum defining an auxiliary chamber therebetween, the inner wall of said auxiliary chamber having liquid perforations communicating with the interior of the drum proper, means engageable with the periphery of the drum supporting the same for rotation on a horizontal axis, a non-rotatable sleeve extending axially into the auxiliary chamber at one end of the drum around which the drum is rotatable, a fluid inlet pipe extending axially in said sleeve and into said auxiliary chamber, means in the auxiliary chamber close to one wall thereof rotatable with the drum for conducting fluid from said inlet pipe to points of discharge in the drum proper which are spaced radially outwardly from the axis of the drum, a discharge pipe eccentrically positioned in said sleeve and having an end projecting into the auxiliary chamber, a branch pipe rigidly connected to said end and projecting in a radial direction in said auxiliary chamber close to the opposite wall from the wall which is adjacent said means for conducting fluid from the inlet pipe and having an open end located near the bottom of the chamber, and a pump connected to said discharge pipe.

**2,397,347. ICE-MAKING MACHINE.** William P. Gruner, St. Louis, Mo., assignor of one-fourth to Oliver R. Burkhardt, Webster Groves, Mo., one-fourth to Walter H. Burkhardt, and one-fourth to Hilbert W. Hagnauer, both of Ladue, Mo. Application Aug. 30, 1943, Serial No. 500,481. 1 Claim. (Cl. 62—111.)



In an ice-making machine having a plurality of substantially vertical ice-freezing tubes of the character described, a breaker grid comprising a rectangular reciprocating frame having a plurality of spaced parallel bars provided with a plurality of downwardly and inwardly deflected fingers, each of such fingers being associated with and disposed beneath one of the tubes for engagement with and deflection of the lower end of the ice tube as it is discharged from the freezing tube whereby to deflectionally stress the ice tube and cause shattering and breakage thereof.

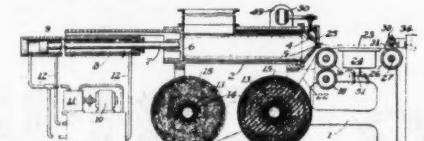
**2,397,403. FOOD DISPENSER CABINET.** Robert H. Bishop, Champaign, Ill., assignor to R. H. Bishop Co., Champaign, Ill., a corporation of Illinois. Application May 25, 1945, Serial No. 595,789. 5 Claims. (Cl. 312—36.)



1. An apparatus for storing, displaying, and dispensing packaged frozen foods, comprising an insulated cabinet having a service lid for gaining access to the interior of the cabinet, a package-removal opening adjacent the top of a vertical sidewall of the cabinet, a door therein, said door and opening being of sufficient width measured vertically to permit ready removal of one package only at a time, a package receiving magazine located inside the cabinet adjacent but spaced from the walls thereof said receiving magazine comprising vertical pierced walls forming a package-receiving space of the size and shape of a package, the upper end of the front wall of said magazine terminating below the other walls, and the rear wall formed with a forwardly curved top, thus forming an opening of size and shape to permit ready removal of one package at a time therethrough, a platform to support a stack of said packages mounted for vertical travel between said pierced walls, said vertical walls serving as guide means to guide said platform in its vertical travel, means limiting the downward travel of said platform thereby providing

a space between said platform and the floor of said cabinet, means for urging said platform upward thereby automatically carrying a stack of packages resting thereon upward until the top package is thrust against said forwardly curving top and urged forward into said opening in the magazine to permit its being readily grasped when the door is opened, refrigerating means extending vertically in said cabinet from a point near the bottom to a point near the top thereof, said refrigerating means being located adjacent and spaced from the rear wall of said magazine, the walls of the cabinet, the walls of the magazine, and the refrigerating means forming a passageway for circulating air downwardly between the magazine and the refrigerating means, across the bottom of the cabinet, and then upwardly in the package receiving magazine and between the walls of the cabinet and magazine.

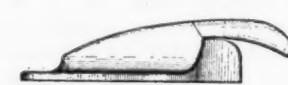
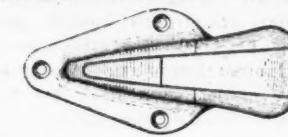
**2,397,446. APPARATUS FOR REFRIGERATING COMESTIBLES.** Leslie R. Tansley, Columbus, Ohio, assignor to White Castle System, Inc., Columbus, Ohio, a corporation of Delaware. Application Sept. 28, 1942, Serial No. 459,954. 1 Claim. (Cl. 17—32.)



Apparatus for preparing and refrigerating ground meat comprising a frame, an extrusion cylinder adapted to receive a mass of ground meat, a head at one end of said cylinder having an outlet slot, means cooperative with said cylinder for forcing ground meat contained therein through said slot in order to reduce the meat to the form of a flat strip, guide devices carried by said frame over which a ribbon of paper is advanced longitudinally, said guide devices being disposed beneath the outlet slot of said cylinder and in registration therewith so that meat strips extruded from said cylinder are deposited on the paper ribbon, means carried by said frame for transversely scoring the meat strip moving on said ribbon into divisions of equal length, an elongated refrigerating tunnel, and means for drawing said ribbon with a meat

strip deposited thereon through said tunnel.

**144,234. DESIGN FOR A REFRIGERATOR DOOR LATCH.** Merle A. Blackwood, Freeport, Ill., assignor, by mesne assignments, to Rockwell Mfg. Co., Pittsburgh, Pa., a corporation of Pennsylvania. Application Sept. 27, 1945, Serial No. 122,367. Term of patent 14 years. (Cl. D50—5.)



The ornamental design for a refrigerator door latch, substantially as shown.

### Bendix Names District Service Supervisors

**SOUTH BEND**, Ind.—Appointment of three new supervisors in his department was announced by A. P. Smith, service manager for Bendix Home Appliances, Inc.

The new men are: Kenneth Teeters, who will have headquarters in Pittsburgh and will cover western New York, Pennsylvania, and eastern Ohio; Wayne Hollitt, who will headquartered in South Bend and cover the midwest; and David Reese, whose headquarters will be in Dallas, with the southwest as his territory.

The company now has nine national service supervisors.

### REFRIGERATION ACCESSORIES

- Instantaneous Water and Beverage Coolers.
- Oil Separators.
- Two Temperature Valves.
- Accumulator Heat Exchangers.
- Equalizer Tanks.
- Controlled Temperature Photographic Processing Units.
- X-Ray Refrigerating Units.

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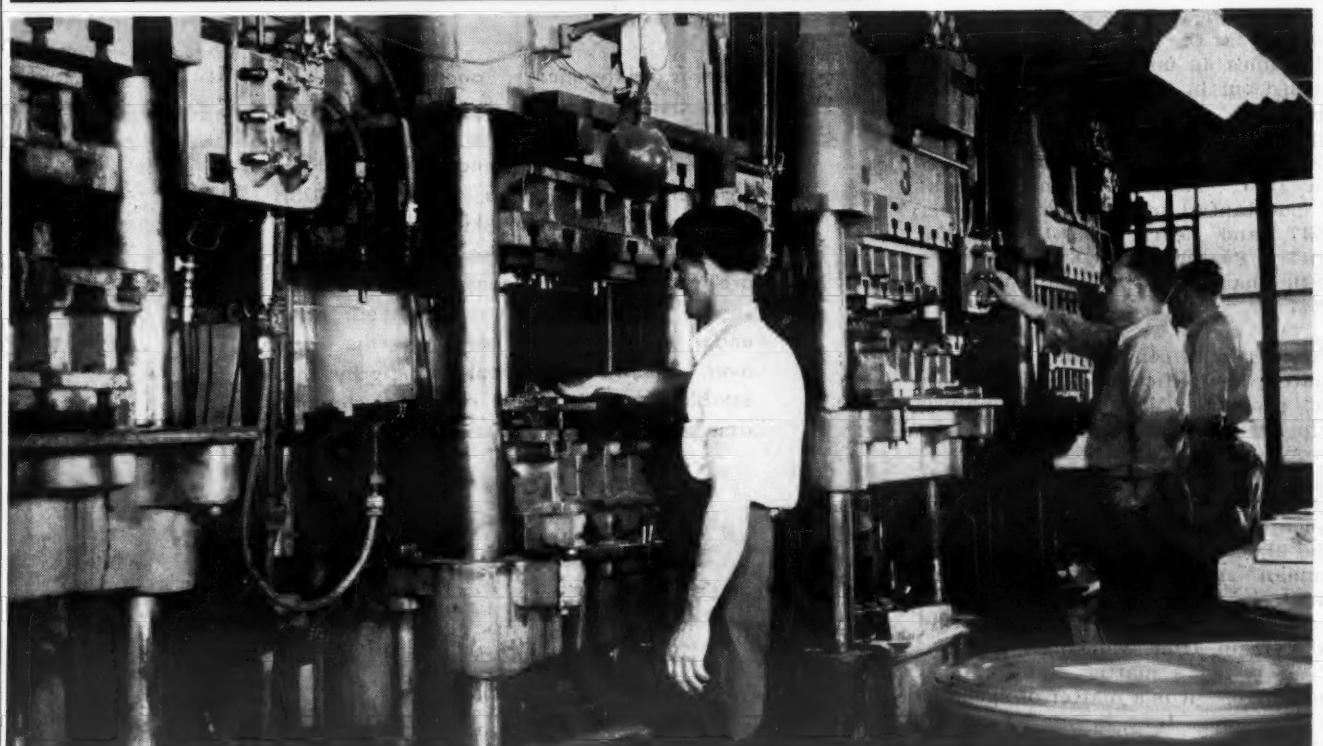
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# plastics



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## Output To Fall Below Needs---

(Concluded from Page 1, Column 2) the figures would approach 67,000 refrigerators, 18,000 washers, and 192,000 irons, for the items the public needed most.

Before the strikes, the industry had announced production figures running into hundreds of thousands of units in certain lines of appliances, he recalled. But every one of these was almost immediately distributed and sold—spending so little time on dealers' shelves, as a matter of fact, that the rumor rose that they were being warehoused against price rises. This most certainly was not the case, Mr. Peare stated.

Meanwhile the machinery for distributing appliances has been undergoing long and thorough study, he said. Much of it represented the distribution needs of an earlier day. More recently emphasis has shifted toward the new user, the man who, for various economic or geographic reasons, has never been a customer before.

The industry's most important consideration now is immediate production, he stated. In the face of admitted losses on many lines, working toward ultimately fair prices is most practical, he believed—if only because arithmetic is sounder argument than political gain.

The question of how fast the industry can get back to scheduled production as announced before the strikes, Mr. Peare recounted, will depend on workers, on the flow of materials, and on the availability of necessary machines and tools.

"Production and shipments before the strike were pretty good," he recalled. "By the end of December General Electric had turned out some 2,300,000 appliances. But production was spotty. Only four appliances were being made at schedules rates or better, and nine appliances weren't even in production."

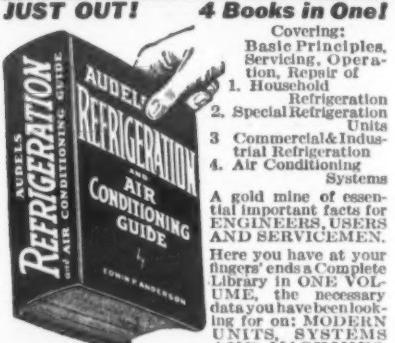
He outlined G-E's production predictions for the near future: Ballasts: 2½ times as many in 1946 as were turned out in 1940, and 5½ times as many for 1947. Fractional horsepower motors: Twice as many in 1946 as in 1940, and 3 times as many for 1947. Meters and instruments: A substantial increase in 1946 over 1947, and nearly 100% more for 1947. Switchgears: 85% more in 1946 than in 1940, and 205% for 1947.

"One factor we do recognize," Mr. Peare said in conclusion, "is that no matter how efficient our plants may be, production in the final analysis depends on the goodwill of the people."

"The problem of production now depends less upon the intricacies of scientific management and more upon the alphabet of human attitudes and human relationships. We must think in terms of individuals, what makes them want to work or to want to refrain from working."

"It is not a matter of technique," he stated, "it is a matter of spending a little more time in our own backyard. We know more about machines than men because we have spent more time on the machines. Now we face a new job—and one our industry must do for itself. Nobody else can do it for us."

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## Lockers, Air Conditioning Planned for Housing Project

PHILADELPHIA — Featuring frozen food storage lockers, and optional air conditioning facilities, a \$5,000,000 apartment house project will soon be erected at the corner of School House Lane and Wissahickon Ave in Germantown here by Mayer I. Blum, Philadelphia builder.

The new apartment house will be one of the first in the east to have heating controls which make it possible for each tenant to regulate the temperature of his own apartment. Controls for this personalized service will be supplied by Minneapolis-Honeywell Regulator Co., it was announced. Work will begin as soon as materials can be assembled.

## Rose Elected V.P. In Charge Of Maytag Manufacturing

NEWTON, Iowa—Irwin A. Rose, formerly with Edison General Electric Appliance Co., Inc., has been elected vice president in charge of manufacturing at the Maytag Co. here to replace A. H. Taylor who resigned last September.

Having been associated with the Chicago G-E subsidiary for more than 23 years, Mr. Rose held positions ranging from time study man to director of manufacturing. He is a native of Chicago and a graduate of the Northwestern university school of commerce.

Fred Maytag II has been carrying on the activities of the post.

## Oil Burner Shipments Show Rise for January

WASHINGTON, D. C.—Oil burner shipments during the month of January were 29,494 units, an increase of nearly 8,000 over December shipments, more than three times the number of such burners shipped during January, 1945, and over five times the units shipped in January, 1944.

These figures, contained in a report released last week by the Bureau of Census, specified that of the January, 1946, shipments, 93% were residential oil type burners and the remainder commercial and industrial.

For this study 124 oil burner manufacturers submitted reports.

## Michigan Locker Plant Operators Meet April 24

EAST LANSING, Mich.—Eighth Annual Spring Conference of Michigan locker plant operators will be held at Michigan State College here, Wednesday and Thursday, April 24 and 25.

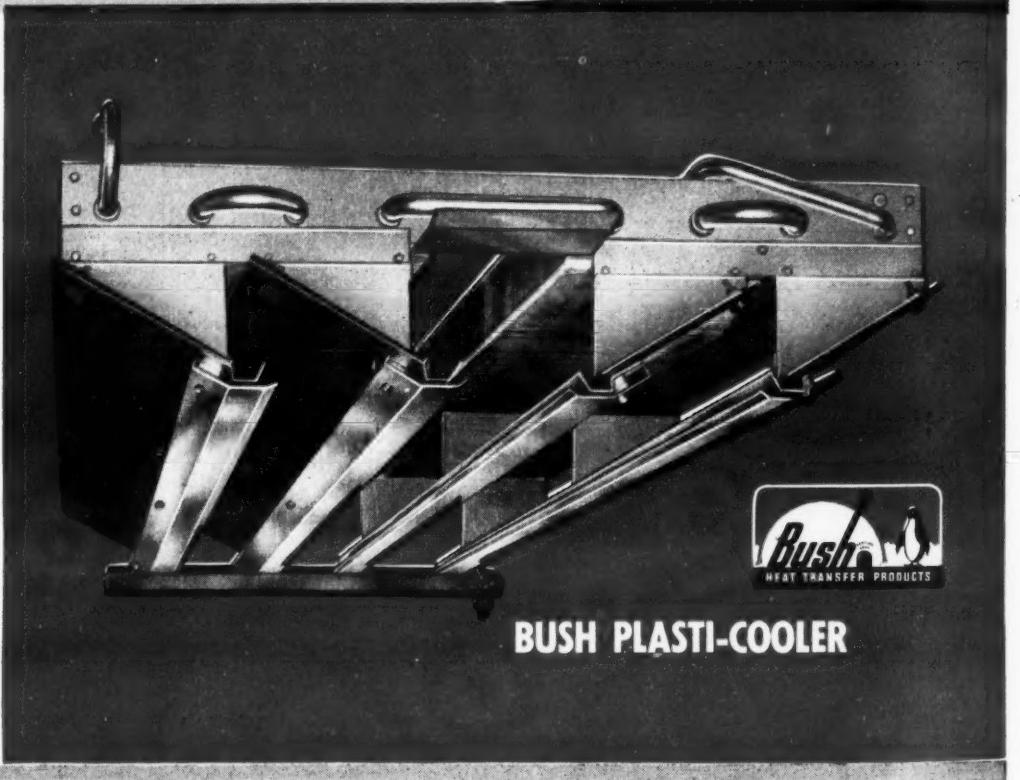
Talks on various phases of locker plant operation are planned, and, in addition, there will be demonstrations of slaughtering, cutting and wrapping of meats, boning of fowl, and preparing and packaging of fruits and vegetables.

Legal advice regarding the Fair Labor Standards Act, with respect to locker plants, will also be outlined at the conference.

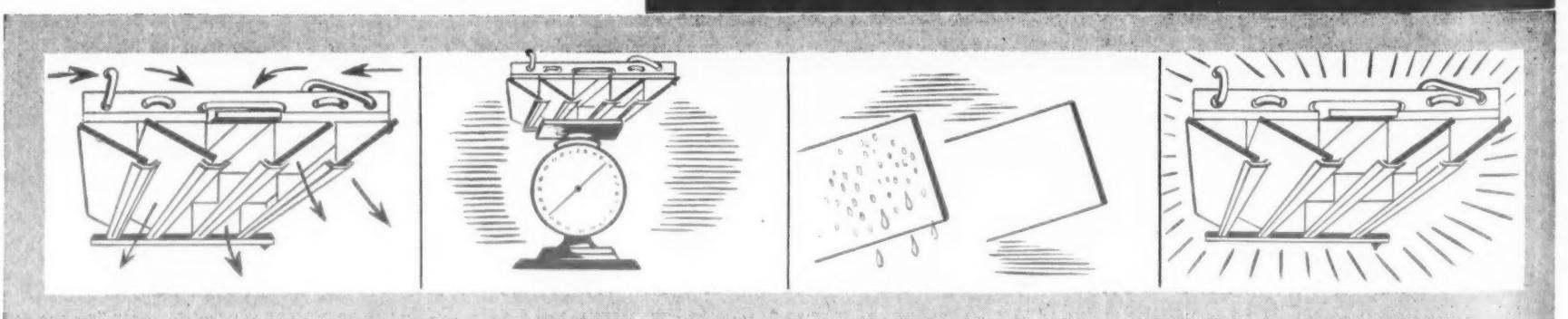


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